

PUBLIC VERSION
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July 30, 2025

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VIA-E-FILING

Ms. Cynthia T. Brown
Section of Administration, Office of Proceedings
Surface Transportation Board
395 E Street
Washington, DC 20423-0001

ENTERED
Office of Proceedings
July 30, 2025
Part of
Public Record

Re: Norfolk Southern Railway Company – Trackage Rights Exemption – Providence and Worcester Railroad Company, Docket No. FD 36472 (Sub-No. 2)

Dear Ms. Brown:

Pursuant to 49 C.F.R. § 1180.6(a)(7)(ii), Norfolk Southern Railway Company (“NSR”) hereby submits to the Board a public version (with redactions) and an unredacted highly confidential version (filed under seal)¹ of the executed trackage rights agreement between NSR and Providence & Worcester Railroad (“P&W”) for the trackage rights that were approved in the above sub-docket. Although the trackage rights agreement was executed on November 20, 2024, NSR did not file it within the 10-day period provided by 49 C.F.R. § 1180.6(a)(7)(ii) because there was uncertainty regarding when NSR would actually begin to use these rights. However, NSR will now begin exercising these rights on or around September 2, 2025. Thus, NSR is filing the executed agreement now in both a public version and a highly confidential version. Should there be any questions concerning this submission, please contact me directly, either by telephone (202-663-7823) or by email wmullins@mullinslawgroup.net.

Respectfully submitted,

/s/ **William A. Mullins**

William A. Mullins
Counsel for Norfolk Southern Railway Company

Enclosures

cc: Parties of Record

¹ A protective order was imposed by a decision of the Office of Proceedings served March 3, 2021. See CSX Corporation, et al. – Control and Merger – Pan Am Systems, Inc., et al., Docket No. 36472 (STB served Mar. 3, 2021).

TRACKAGE RIGHTS AGREEMENT
Between
PROVIDENCE AND WORCESTER RAILROAD COMPANY
and
NORFOLK SOUTHERN RAILWAY COMPANY

THIS TRACKAGE RIGHTS AGREEMENT (the “Agreement”) entered into as of this 20 day of November 2024, between Providence and Worcester Railroad Company, a Rhode Island corporation, (“P&W”), and Norfolk Southern Railway Company, a Virginia corporation (“NSR” and collectively with P&W, the “Parties”).

WHEREAS, the Parties desire to enter into a formal Trackage Rights Agreement to allow NSR’s movement of one train pair (that is one train in each direction) carrying intermodal and automotive vehicles traffic per day no longer than 9,000-feet plus locomotives meeting the clearance requirements of CSX Transportation, Inc. (“CSXT”), not exceeding the siding capacity between CSXT’s line between Schenectady and Harvard, and sufficiently powered to maintain maximum track speed on the Subject Trackage as defined in Article 1 (the “Subject Traffic”) between a connection with the tracks of CSXT at Worcester at milepost 0.0, over Track 1 extending from the east side of Green Street to the point of merger of said Track 1 and the Main Track so called at milepost 1.05, south of Garden Street, and over said Main Track thereafter from milepost 1.05 to P&W’s Gardner Branch baseline station 153 + 50, which is the point of connection with the tracks of Boston and Maine Corporation (“B&M”) at Barbers Station at milepost 2.90, all such track located in the City of Worcester, Commonwealth of Massachusetts, as part of a route between approximately Voorheesville, NY, and Ayer, MA.

WHEREAS, NSR and CSXT have entered a Trackage Rights Agreement dated as of May 8, 2024 to allow NSR’s movement of the Subject Traffic between approximately Voorheesville, NY, at or near milepost QG 22.5, and Worcester, MA, at or near milepost QB 44.5, as part of a route between approximately Voorheesville, NY, and Ayer, MA.

WHEREAS, NSR, B&M and CSXT, as owner of B&M and Springfield Terminal Railroad Company (“ST”), have entered into a Trackage Rights Agreement dated as of May 8, 2024 to allow NSR’s movement of the Subject Traffic between Barbers Station, MA, WOR 23.0 (previously milepost X 2.92) and Harvard, MA, milepost WOR 1.0 (previously X 25.0), as part of a route between approximately Voorheesville, NY and Ayer, MA .

WHEREAS, NSR and Pan Am Southern Railway LLC (“PAS”) have entered into a Trackage Rights Agreement dated as of May 8, 2024 to allow NSR’s movement of the Subject Traffic between Harvard, MA, milepost 25.0 and Ayer, MA, milepost 28.01.

NOW, THEREFORE, P&W and NSR, intending to be legally bound, agree as follows:

ARTICLE 1. GRANT OF TRACKAGE RIGHTS

Subject to the terms and conditions herein provided, P&W hereby grants to NSR the right to operate the Subject Traffic (locomotives, cars, and equipment in NSR's revenue waybill account) with its own crews over the following segments of P&W's railroad (hereinafter referred to as the "Trackage Rights"):

Over P&W's mainline between a connection with the tracks of CSXT at Worcester at milepost 0.0, over Track 1 extending from the east side of Green Street to the point of merger of said Track 1 and the Main Track so called at milepost 1.05, south of Garden Street, and over said Main Track thereafter from milepost 1.05 to P&W's Gardner Branch baseline station 153 + 50, which is the point of connection with the tracks of B&M at Barbers Station at milepost 2.90, all such track located in the City of Worcester, MA, Commonwealth of Massachusetts (the "Subject Trackage") (a total distance of approximately 2.90 miles). The grant of Trackage Rights to NSR will be limited to handling the Subject Traffic to/from and across the Subject Trackage.

ARTICLE 2. USE OF SUBJECT TRACKAGE

A. NSR's use of the Subject Trackage shall be in common with P&W and any other user of the Subject Trackage, and P&W's right to use the Subject Trackage shall not be diminished by this Agreement. P&W shall retain the exclusive right to grant to other persons rights of any nature in the Subject Trackage; provided that the rights granted to such other users do not unreasonably interfere with the exercise of NSR's rights hereunder.

B. NSR may use the Subject Trackage solely for the purpose of the overhead movement of its own trains between the end points of the Subject Trackage.

C. NSR shall not use any part of the Subject Trackage for the purpose of providing haulage to a third party, crew changes, switching, storage, or servicing cars or the making or breaking up of trains, except that nothing contained herein shall, upon prior approval of P&W, preclude the emergency use by NSR of such auxiliary tracks as may be designated by P&W for such purposes.

D. P&W shall have exclusive control of the management and operation of the Subject Trackage. NSR shall not have any claim against P&W for liability on account of loss or damage of any kind in the event the use of the Subject Trackage by NSR is interrupted or delayed at any time from any cause. NSR's entry to and exit from the Subject Trackage shall be governed by the instructions of P&W's dispatcher.

E. NSR shall have the right to operate in either direction over the Subject Trackage.

ARTICLE 3. RESTRICTION ON USE

A. The Trackage Rights herein granted are granted for the sole purpose of NSR using

same for transporting the Subject Traffic across the Subject Trackage.

B. NSR shall not perform any local freight service whatsoever at any point located on the Subject Trackage.

ARTICLE 4. MISCELLANEOUS SPECIAL PROVISIONS

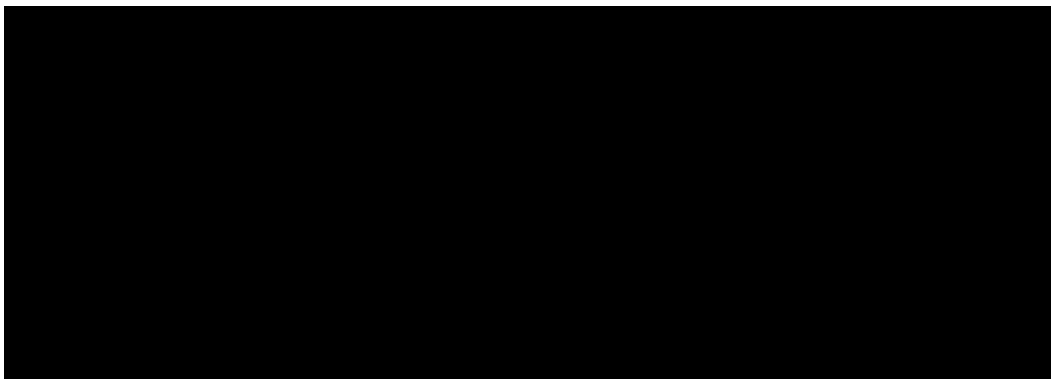
A. When operating over the Subject Trackage, NSR's locomotives and crews shall be equipped to communicate with P&W on radio frequencies normally used by P&W in directing train movements on the Subject Trackage.

B. Procedures for qualification and occupancy of the Subject Trackage shall be arranged by the local supervision of each carrier. All control and usage shall be subject to the approval of P&W's representative or his designee.

C. Prior to commencing operations over the Trackage Rights, NSR shall prepare in good faith consultation with P&W and provide to P&W for approval, which shall not be unreasonably withheld, plans pursuant to the specifications in Attachment A to this Agreement, including the costs, to upgrade the Subject Trackage to handle the Subject Traffic (collectively referred to as the "Improvements"). Construction of the Improvements shall occur as follows: (x) P&W shall furnish all labor and material and shall construct, at NSR's sole cost and expense, such portions of the tracks located on the right-of-way of P&W that connect to the respective lines of CSXT and B&M; and (y) NSR shall fund, at its sole cost and expense, the design, purchase and, except as provided in clause (x), construction of, and undertake or cause to perform, the Improvements, which shall be designed and constructed so that there is seamless connectivity when the Improvements meet at the connections of P&W, CSXT and B&M's respective rights of way. Upon termination of this Agreement, P&W may, at its option, remove the portion of the Improvements as may be located on property of P&W, at the sole cost and expense of NSR. The salvage material removed shall be released to NSR or, as otherwise agreed upon by the Parties, P&W shall credit NSR the current fair market value for said salvage against the cost of removal.

ARTICLE 5. COMPENSATION

A.



ARTICLE 6. REVISION OF COMPENSATION

- A. The Initial Rates shall be subject to change to reflect any increases or decreases in labor, material and other costs as hereinafter provided.
- B. The Initial Rates shall be revised upward or downward each year, beginning with the bill rendered for the month of June, 2025 to compensate for the increase or decrease in the cost of labor and material, excluding fuel, as reflected in the Annual Indexes of Charge-Out Prices and Wage Rates (1977=100), included in "AAR Railroad Cost Indexes" and supplements thereto, issued by the Association of American Railroads (hereinafter referred to as "AAR"). In making such determination, the final "Material prices, wage rates and supplements combined (excluding fuel)" indexes for the East District shall be used. The Initial Rates shall be revised by calculating the percent of increase or decrease in the index of the latest calendar year (2024 Index for the first annual adjustment) as related to the index for the previous calendar year (2023 Index for the first annual adjustment) and applying that percent to the Initial Rates.
- C. By way of example, assuming "A" to be the "Material prices, wage rates and supplements combined (excluding fuel)" final index figure for 2024; "B" to be the "Material prices, wage rates and supplements combined (excluding fuel)" final index figure for 2023; "C" to be the Initial Rates; and "D" to be the percent of increase or decrease; the revised Initial Rates stated herein would be revised by the following formula:

$$(1) (A - B) / B = D$$

$$(2) (D \times C) + C = \text{revised Initial Rates rounded to the third decimal place, effective June 1 of the year being revised}$$

- D. In the event the base for the Annual Indexes of Charge-Out Prices and Wage Rates issued by the AAR shall be changed from the year 1977, appropriate revision shall be made. If the AAR or any successor organization discontinues publication of the Annual Indexes of Charge-Out Prices and Wage Rates, an appropriate substitute for determining the percentage of increase or decrease shall be negotiated by the Parties hereto. In the absence of agreement, the Parties shall submit the matter to binding arbitration as provided hereinafter.
- E. At the option of either party hereto, the compensation provided for in this Agreement shall be open for renegotiation every five (5) years from the Commencement Date. In the event the Parties fail to reach agreement upon such renegotiation, such failure shall not constitute a breach of this Agreement, and the

Parties shall continue to be bound by the terms of compensation provided in this Agreement until the matter is settled or submitted to binding arbitration.

ARTICLE 7. PAYMENT OF BILLS

- A. All payments called for under this Agreement shall be made by NSR within thirty (30) days after receipt of bills therefor. No payments shall be withheld because of any dispute as to the correctness of items in the bills rendered, and any discrepancies reconciled between the Parties shall be adjusted in the accounts of a subsequent month. The records of each Party, insofar as they pertain to matters covered by this Agreement, shall be open at all reasonable times to inspection by the other Party for a period of two (2) years from the date of billing.
- B. Bills rendered pursuant to the provisions of this Agreement, other than those set forth in Article 5, shall include direct labor and material costs, together with the surcharges, overhead percentages and equipment rentals as specified by P&W at the time any work is performed by P&W for NSR.

ARTICLE 8. MAINTENANCE OF SUBJECT TRACKAGE

- A. P&W shall maintain, repair and renew the Subject Trackage with its own supervision and labor. P&W shall keep and maintain the Subject Trackage in reasonably good condition for the use herein contemplated, but P&W does not guarantee the condition of the Subject Trackage at any time during the term hereof or that operations thereover shall not be interrupted. P&W shall use commercially reasonable efforts to ensure that any interruptions shall be kept to a minimum. Furthermore, except as may be otherwise provided in Article 14, NSR shall not by reason of failure or neglect on the part of P&W to maintain, repair or renew the Subject Trackage, have or make any claim or demand against P&W or its parent corporation, subsidiaries or affiliates, or their respective directors, officers, agents or employees for any injury to or death of any person or persons whomsoever, or for any damage to or loss or destruction of any property whatsoever, or for any damages of any nature suffered by NSR resulting from any such failure or neglect.
- B. P&W shall perform, at the expense of NSR, such additional maintenance as NSR may reasonably require or request.

ARTICLE 9. CONSTRUCTION AND MAINTENANCE OF NEW CONNECTIONS

- A. Existing connections or facilities that are jointly used by the Parties shall continue to be maintained, repaired and renewed by and at the expense of the party or parties responsible for such maintenance, repair and renewal under the relevant agreements.

- B. Any additional connections to the Subject Trackage beyond those addressed in Article 4.C that may be required shall be subject to P&W's approval (including design) and shall be constructed, maintained, repaired and renewed as follows:
- (i). NSR or others shall furnish all labor and material and shall construct, maintain, repair and renew at its sole cost and expense such portions of the tracks located on the right-of-way of CSXT or B&M that connect the respective lines of P&W, CSXT and B&M.
 - (ii). P&W shall furnish all labor and material and shall construct, maintain, repair and renew at the sole cost and expense of NSR such portions of the additional track and structure upgrades located on the right-of-way of P&W which connect the respective lines of P&W, CSXT and B&M and/or enables clearance for double-stack containers hereto.

ARTICLE 10. ADDITIONS, RETIREMENTS AND ALTERATIONS

- A. Except to the extent inconsistent with Article 4, P&W, from time to time and at its sole cost and expense may make changes in, additions and betterments to or retirements from the Subject Trackage as shall, in its judgment, be necessary or desirable for the economical or safe operation thereof or as shall be required by any law, rule, regulation, or ordinance promulgated by any governmental body having jurisdiction. Such additions and betterments shall become a part of the Subject Trackage and such retirements shall be excluded from the Subject Trackage.
- B. Except as otherwise provided in Article 4, if the Parties agree that changes in or additions and betterments to the Subject Trackage, including changes in communication or signal facilities, are required to accommodate NSR's operations beyond that required by P&W to accommodate its operations, P&W shall construct the additional or altered facilities and NSR shall pay to P&W the cost thereof, including the annual expense of maintaining, repairing and renewing such additional or altered facilities.

ARTICLE 11. MANAGEMENT AND OPERATIONS

- A. NSR shall comply with the provisions of the Federal Locomotive Inspection Act and the Federal Safety Appliance Act, as amended, and any other federal and state and local laws, regulations and rules respecting the operation, condition, inspection and safety of its trains, locomotives, cars and equipment while such trains, locomotives, cars, and equipment are being operated over the Subject Trackage. NSR shall indemnify, protect, defend, and save harmless P&W and its parent corporation, subsidiaries and affiliates, and all of their respective directors, officers, agents and employees from and against all fines, penalties and liabilities imposed upon P&W or its parent corporation, subsidiaries or affiliates, or their respective directors, officers, agents and employees under such laws, rules, and regulations by any public authority or court having jurisdiction in the premises, when attributable

solely to the failure of NSR to comply with its obligations in this regard.

- B. NSR in its use of the Subject Trackage shall comply in all respects with its own safety and general conduct rules, airbrake and train handling rules, and hazardous materials instructions. While using the Subject Trackage, NSR shall comply in all respects with the operating rules, timetables, equipment handling rules and special instructions of P&W, and the movement of NSR's trains, locomotives, cars, and equipment over the Subject Trackage shall at all times be subject to the orders of the transportation officers of P&W; provided, however, that such operating rules, timetables, and special instructions and orders of the transportation officers of P&W shall not unjustly discriminate between the Parties. P&W will not make any rule or restriction applying to NSR's trains that does not apply equally to P&W's trains. NSR's trains shall not include locomotives, cars or equipment which exceed the width, height, weight or other restrictions or capacities of the Subject Trackage, and no train shall contain locomotives, cars or equipment which require speed restrictions or other movement restrictions below the maximum authorized freight speeds as provided by P&W's operating rules and regulations, without the prior consent of P&W. The Parties shall make proper accommodation for exceptions, should that be reasonable, necessary and practicable. All NSR trains shall be powered to permit operation at the maximum track speed allowed for the Subject Trackage's class of track.
- C. NSR shall make such arrangements with P&W as may be required to have all of its employees who shall operate its trains, locomotives, cars, and equipment over the Subject Trackage qualified for operation thereover, and NSR shall pay to P&W, upon receipt of bills therefor, any reasonable cost incurred by P&W in connection with the qualification of such employees of NSR, as well as the reasonable cost of pilots furnished by P&W, until such time as such employees are deemed by the appropriate examining officer of P&W to be properly qualified for operation as herein contemplated, such determination not to be unreasonably withheld, conditioned or delayed.
- D. The trains, locomotives, cars and equipment of NSR, P&W, and any other present or future user of the Subject Trackage or any portion thereof, shall be operated without prejudice or partiality to either Party and in such manner as shall afford the most economical and efficient manner of movement of all traffic.
- E. In the event that a train of NSR shall be forced to stop on Subject Trackage, and such stoppage is due to insufficient hours of service remaining among NSR's crew, or due to mechanical failure of NSR's equipment, or any other cause not resulting from an accident or derailment, and such train is unable to proceed, or if a train of NSR fails to maintain the speed required by P&W on the Subject Trackage, or if in emergencies, crippled or otherwise defective cars are set out of NSR's trains on the Subject Trackage, P&W shall have the option to furnish motive power or such other assistance (including but not limited to the right to recrew NSR's train) as may be necessary to haul, help or push such trains, locomotives or cars, or to properly move

the disabled equipment off the Subject Trackage, and NSR shall reimburse P&W for the actual cost of rendering any such assistance.

- F. If it becomes necessary to make repairs to or adjust or transfer the lading of such crippled or defective cars in order to move them off the Subject Trackage, P&W shall have the option to perform such work, and NSR shall reimburse P&W for the actual cost thereof.

G.



- H. P&W shall have the right to exclude from its tracks any employee of NSR, except officers, determined by P&W to be in violation of P&W's rules, regulations, orders, practices, or instructions promulgated in the normal course of business in writing by P&W in its timetable or otherwise, and provided in advance to NSR. The decision to bar any employee of NSR from its tracks will not be interpreted as a request for NSR to fire the individual(s). NSR shall release, indemnify, defend, and save harmless P&W from and against any and all claims and expenses resulting from such exclusion.

ARTICLE 12. MILEAGE AND CAR HIRE

All mileage and car hire charges accruing on cars in NSR's trains on the Subject Trackage shall be assumed by NSR and reported and paid by it directly to the owner of such cars.

ARTICLE 13. CLEARING OF WRECKS

Whenever NSR's use of the Subject Trackage requires rerailling, wrecking service or wrecking train service, P&W shall perform or provide such service, including the repair and restoration of roadbed, track, and structures so as to minimize the impact on P&W and NSR operations. The cost, liability, and expense of the foregoing, including without limitation loss of, damage to, or destruction of any property whatsoever and injury to and death of any person or persons whomsoever or any damage to or destruction of the environment whatsoever, including without limitation land, air, water, wildlife, and vegetation, resulting there from, shall be apportioned in accordance with the provisions of Article 14 hereof. All locomotives, cars, and equipment and salvage from the same so picked up and removed which are owned by or under the management and control of or used by NSR at the time of such wreck, shall be promptly delivered to NSR.

ARTICLE 14. LIABILITY

- A. Without changing the responsibility for the provision of emergency services as set forth in Article 13, the responsibility and liability between the Parties for: (i) any personal injury or death of any person (including employees of the Parties and third persons), (ii) any real or personal property damage of any person (including property of the Parties and third persons), (iii) any damage or destruction to the environment (including land, air, water, wildlife and vegetation), and (iv) all cleanup and remedial expenses, court costs, settlements, claims, judgments, litigation expenses, and reasonable attorneys' fees resulting from the use of the Subject Trackage by either Party as described herein, all of which are collectively referred to as a "Loss", shall be allocated as follows:
1. If a Loss results from use of the Subject Trackage involving the trains, locomotives or other units of motive power (hereinafter in this Article 14, "Locomotives"), cars, and/or equipment of only one Party, then such Party shall be solely responsible for the Loss, even if caused partially or completely by the other Party.
 2. Losses involving the trains, Locomotives, cars, and/or equipment of both Parties.
 - a. Except as otherwise provided in Subarticle 14.A.2.b, below, if a Loss results from use of the Subject Trackage involving the trains, Locomotives, cars, and/or equipment of both P&W and NSR, then: (A) each Party shall be solely responsible for any Loss to its own employees, trains, Locomotives, equipment, and cars in its own account including lading and (B) responsibility for any Loss to the Subject Trackage and Loss sustained by third parties shall be divided equally between the two Parties, regardless of the proportionate responsibility between them as to the cause of the Loss.
 - b. If any damage to the environment, including without limitation land, air, water, wildlife, and vegetation, results from use of the Subject Trackage involving both P&W's and NSR's trains, Locomotives, cars, and/or equipment, then as between themselves, (A) P&W shall be solely responsible for any damage or destruction to the environment (including exacerbation of existing conditions) and to third parties which results solely from a substance transported in P&W's cars and equipment and/or P&W's Locomotive(s) from which there is a release, (B) NSR shall be solely responsible for any damage or destruction to the environment (including exacerbation of existing conditions) and to third parties that results solely from a substance transported in NSR's cars and equipment and/or NSR's Locomotive(s) from which there was a release, and (C) P&W and

NSR shall be responsible, in proportion to the total number of Locomotives, cars, and/or equipment of each Party from which there was a release, for any damage or destruction to the environment (including exacerbation of existing conditions) and to third parties that results from one or more substances transported in cars or equipment in the revenue waybill and car hire accounts or Locomotives of both P&W and NSR from which there were releases.

3. If a Loss results from use of the Subject Trackage involving the trains, Locomotives, cars, and/or equipment only one of the Parties and one or more third parties, then such Party shall be solely responsible for such Loss as between the Parties.
- B. If a Loss occurs other than one resulting from the use of the Subject Trackage by the trains, Locomotives, cars, and/or equipment of either P&W or NSR, then each of P&W and NSR is solely responsible for any Loss to its own employees, trains, Locomotives, cars, and/or equipment, even if caused partially or completely by the other Party.
- C. Except as provided in Subarticle 11.G and Subarticle 18.B, each Party agrees to indemnify and hold harmless the other Party and its parent corporation, subsidiaries and affiliates, and any or all their respective directors, officers, agents and employees from and against any and all costs and payments, including benefits, allowances and arbitration, administrative and litigation expenses, arising out of claims or grievances made by or on behalf of its own employees pursuant to a collective bargaining agreement or employee protective conditions imposed by a governmental agency upon the agency's approval or exemption of this Agreement. It is the intention of the Parties that each Party shall bear the full costs of protection of its own employees under employee protective conditions which may be imposed, and of grievances filed by its own employees arising under its collective bargaining agreements with its employees. Similarly, each Party agrees to indemnify and hold harmless the other Party against any and all costs and payments, including judgments, damages, attorneys' fees and litigation expenses, arising out of claims, lawsuits and actions brought by or on behalf of its own employees pursuant to any provision of law, including common law, and based on employment arising out of the operations covered by this Agreement, except to extent otherwise specifically provided in this Agreement.
- D. Whenever any Loss is assumed by or apportioned to a Party under the foregoing provisions, that Party shall (i) forever protect, defend, indemnify, and save harmless the other Party and its parent corporation, subsidiaries and affiliates, and any and all of their respective directors, officers, agents, and employees from and against such Loss (including without limitation attorney's fees and expenses and court or regulatory expenses) assumed by that Party or apportioned to it, and (ii) shall defend at its cost such indemnified Party against any claims for such liabilities, loss

and expenses with counsel selected by the indemnifying Party and reasonably acceptable to the indemnified Party, regardless of whether caused in whole or in part by the fault, failure, negligence, misconduct, nonfeasance, or misfeasance of the indemnitee or its directors, officers agents, or employees.

- E. In every case of death or injury suffered by an employee of either NSR or P&W, when compensation to such employees or employee's dependents is required to be paid under any workmen's compensation, occupational disease, employers' liability or other law, and either of said Parties, under the provisions of this Agreement, is required to pay said compensation, if such compensation is required to be paid in installments over a period of time, such Party shall not be released from paying any such future installments by reason of the expiration or other termination of this Agreement prior to any of the respective dates upon which any such future installments are to be paid.
- F. For purposes of determining liability, pilots furnished by P&W to NSR pursuant to this Agreement shall be considered as the employees of NSR while such employees are on duty as pilots for NSR.
- G. If any suit or action shall be brought against either Party for damages which under the provisions of this Agreement are in whole or in part the responsibility of the other Party, said other Party shall be notified in writing by the Party sued, and the Party so notified shall have the right and be obligated to take part in the defense of such suit and shall pay a proportionate part of the judgment and costs, expense and attorneys' fees incurred in such suit according to its liability assumed hereunder.
- H. In the event of a Loss as set out herein, the Parties shall be bound by the Freight Claim Rules, Principles, and Practices of the AAR as to the handling of any claims for the loss or damage to lading.
- I. Notwithstanding any provision of this Agreement to the contrary, for the purpose of this Article 14, the word "equipment" shall mean and be confined to (i) cabooses, (ii) vehicles and machinery which are capable of being operated on railroad tracks that, at the time of an occurrence, are being operated on the Subject Trackage, and (iii) vehicles and machinery that, at the time of an occurrence, are on the Subject Trackage or its right of way for the purpose of maintenance or repair thereof or the clearing of wrecks thereon.
- J. Notwithstanding any and all of the forgoing provisions of this Article 14, in the event a Loss occurs while the Subject Trackage is being used by P&W and/or NSR, and such Loss is attributable solely to the willful or wanton negligence of only one of the Parties to this Agreement, then the Party which was so willfully or wantonly negligent shall be solely responsible for such Loss. The Parties shall submit disputes involving the determination of whether a Loss is attributable solely to the willful or wanton negligence of one of the Parties to this Agreement, but no other disputes under this Agreement, to binding arbitration under the commercial

arbitration rules of the American Arbitration Association.

- K. Notwithstanding any provision of this Agreement to the contrary and regardless of the nature of the cause of action (whether in contract, tort or otherwise), in no event shall either Party be liable to the other Party for any incidental, special, indirect, consequential or punitive damages whatsoever (including but not limited to lost profits, business interruption expenses, lost use of equipment, liability to a Party's customers for liquidated damages or other damages) arising out of or related to the activities contemplated by this Agreement, even if advised of the possibility of such damages. Except as otherwise provided in Subarticle 14.G and 15.D hereof, under no circumstances shall either Party be entitled to recover its attorneys' fees and legal cost and expenses from the other Party for a dispute arising out of this Agreement.

ARTICLE 15. CLAIMS

- A. Except as provided in Subarticle B below, all claims, injuries, death, and property damages and losses arising out of or connected with this Agreement shall be investigated, adjusted, and defended by the Party bearing the liability, cost, and expense therefor under the provisions of this Agreement.
- B. Each Party shall investigate, adjust, and defend all freight loss and damage claims filed with it in accordance with 49 U.S.C. Section 11706.
- C. In the event a claim or suit is asserted against P&W or NSR which is the other's duty hereunder to investigate, adjust or defend, then, unless otherwise agreed, such other Party shall, upon request, take over the investigation, adjustment and defense of such claim or suit.
- D. All costs and expenses in connection with the investigation, adjustment and defense of any claim or suit under this Agreement shall be included as costs and expenses in applying the liability provisions set forth in this Agreement, except that salaries or wages of full-time agents, full-time attorneys and other full-time employees of either Party engaged directly or indirectly in such work shall be borne by such Party.
- E. Excluding freight loss and damage claims filed in accordance with 49 U.S.C. Section 11706, neither Party shall settle or compromise any claim, demand, suit or cause of action for which the other Party has any liability under this Agreement without the concurrence of such other Party if the consideration for such settlement or compromise exceeds [REDACTED].
- F. Each Party agrees to indemnify and hold harmless the other Party and its parent corporation, subsidiaries and affiliates, and all their respective directors, officers, agents and employees from and against any and all costs and payments, including benefits, allowances and arbitration, administrative and litigation expenses, arising

out of claims or grievances made by or on behalf of its own employees, either pursuant to a collective bargaining agreement or employee protective conditions imposed by a governmental agency upon the agency's approval or exemption of this Agreement. It is the intention of the Parties that each Party shall bear the full costs of protection of its own employees under employee protective conditions which may be imposed, and of grievances filed by its own employees arising under its collective bargaining agreements with its employees.

- G. It is understood that nothing in this Article 15 shall modify or waive the conditions, obligations, assumptions, or apportionments provided in Article 14.

ARTICLE 16. INSURANCE

During the term hereof, NSR shall be self-insured.

ARTICLE 17. DEFAULT AND TERMINATION

In the event of any substantial failure on the part of NSR to perform its obligations under this Agreement and its continuance in such default for a period of sixty (60) days after written notice thereof by certified mail from P&W, P&W shall have the right at its option, after first giving thirty (30) days written notice thereof by certified mail, and notwithstanding any waiver by P&W of any prior breach thereof, to terminate the Trackage Rights and NSR's use of the Subject Trackage, subject to any regulatory approval or exemption that may be required under governing law. The exercise of such right by P&W shall not impair its rights under this Agreement or any cause or causes of action it may have against NSR for the recovery of damages.

ARTICLE 18. REGULATORY APPROVAL

- A. Should the Trackage Rights require the prior approval of the U.S. Surface Transportation Board ("STB"), NSR at its own cost and expense shall initiate and thereafter diligently pursue an appropriate application or petition to secure such approval. P&W shall assist and support efforts of NSR to secure any necessary STB approval of this Agreement.
- B. Should the STB at any time during the term of this Agreement impose any labor protective conditions upon the exemption of this Agreement from regulation, NSR, solely, shall be responsible for any and all payments in satisfaction of such conditions, including paying labor protection costs for adversely impacted employees, specifically NSR employees and any ST employee on a PAS rail line adversely impacted as a result of rerouting the Subject Traffic off of PAS and onto P&W.

ARTICLE 19. ABANDONMENT OF SUBJECT TRACKAGE

Notwithstanding the provisions of Article 20, P&W may abandon or discontinue

service over the Subject Trackage during the term of this Agreement or any renewals thereof, upon giving NSR not less than ninety (90) days' notice of P&W's intent to abandon or discontinue service. In the event regulatory authority is required to effect such abandonment or discontinuance, NSR shall not interfere with P&W's actions to seek and to exercise such authority. In the event regulatory authority is required for NSR to discontinue its own operations over the Subject Trackage, NSR shall seek and exercise such regulatory authority at the same time that P&W seeks regulatory authority to abandon or discontinue service over the Subject Trackage. P&W and NSR shall exercise the abandonment and discontinuance authority within thirty (30) days from the date P&W and NSR obtain the aforementioned regulatory authority. Upon the date established by P&W for discontinuance of the Subject Trackage by its aforesaid notice to NSR or upon the above specified date of exercise of the regulatory authority to discontinue operations, whichever is later, this Agreement shall terminate and be of no further force and effect, except that termination of this Agreement shall not relieve or release either Party from any obligations assumed or from any liability which may have arisen or been incurred prior to said termination. The foregoing provisions shall govern the Parties notwithstanding the provisions of 49 U.S.C. Section 10904 or any other provisions of law. As used in this Article 19, Subject Trackage means the entire Subject Trackage or any portion or portions thereof.

Except as otherwise expressly agreed in writing, in the event any actions taken by the Parties under this Article 19 result in an obligation imposed by any competent authority on either or both Parties to protect the interests of affected employees, the responsibility for bearing the cost thereof shall be borne by the Party which is the employer of the affected employee or employees, notwithstanding the manner in which said cost may be apportioned in any order or decision imposing the protection.

ARTICLE 20. TERM

- A. This Agreement shall be effective on the later of the day and year first above written or the date an STB decision granting or exempting the Trackage Rights becomes effective, and shall remain in effect until terminated in accordance with Articles 17 or 19, or by NSR upon sixty (60) days advance written notice to P&W of its intent to terminate this Agreement or until NSR receives authority to discontinue the rights herein granted, whichever occurs first.
- B. NSR shall be liable for complying with the requirements and costs of any labor protection imposed by the STB as a condition to the discontinuance.
- C. Termination of this Agreement shall not relieve or release either Party hereto from any obligation assumed or from any liability which may have arisen or been incurred by either Party under the terms of this Agreement prior to the termination hereof.

ARTICLE 21. FORCE MAJEURE

P&W shall not be responsible to NSR for delays or failure to perform under this Agreement if such delays or failure to perform are covered by circumstances beyond its control, including, but not limited to, Acts of God, floods, storms, earthquakes, hurricanes, tornadoes, or other severe weather or climatic conditions, acts of public enemy, war, blockade, insurrection, actual or threatened acts of terrorism, vandalism or sabotage, fire, accident, wreck, derailment, washout or explosion, strike, lockout or labor disputes experienced by the Parties, embargoes or AAR service orders, Federal Railroad Administration (FRA) orders, or governmental laws, orders or regulations.

ARTICLE 22. RESERVED

ARTICLE 23. SUCCESSORS AND ASSIGNS

This Agreement shall inure to the benefit of and be binding upon the successors and assigns, by merger or otherwise, of the Parties. Neither Party shall transfer or assign this Agreement, or any of its rights, interests or obligations hereunder, to any person, firm, or corporation without obtaining the prior written consent of the other Party.

ARTICLE 24. NOTICE

Any notice required or permitted to be given by one Party to the other under this Agreement shall be deemed given on the date sent by certified mail, or by such other means as the Parties may agree, and shall be addressed as follows:

If to P&W: Providence and Worcester Railroad Company
 200 Meridian Centre, Suite 300
 Rochester, NY 14618
 Attention: President

With copy to:

Genesee & Wyoming Inc.
20 West Avenue
Darien, CT 06820
Attention: General Counsel

If to NSR: Norfolk Southern Railway Company
 c/o Norfolk Southern Corporation
 Attn: Senior Director Interline Services
 650 W Peachtree St NW
 Box 158
 Atlanta, GA 30308

Either Party may provide changes in the above addresses to the other Party by personal

service or U.S. mail.

ARTICLE 25. GENERAL PROVISIONS

- A. This Agreement and each and every provision hereof is for the exclusive benefit of the Parties and not for the benefit of any third party. Nothing herein contained shall be taken as creating or increasing any right of any third party to recover by way of damages or otherwise against either of the Parties.
- B. This Agreement contains the entire understanding of the Parties and supersedes any and all oral understandings between the Parties.
- C. No term or provision of this Agreement may be changed, waived, discharged or terminated except by an instrument in writing and signed by both Parties.
- D. All words, terms and phrases used in this Agreement shall be construed in accordance with the generally applicable definition or meaning of such words, terms and phrases in the railroad industry.
- E. All Article headings are inserted for convenience only and shall not affect any construction or interpretation of this Agreement.
- F. Each and every separate division (paragraph, clause, item, term, condition, covenant or agreement) herein contained shall have independent and severable status from each other separate division, or combination thereof, for the determination of legality, so that if any separate division is determined to be unconstitutional, illegal, violative of trade or commerce, in contravention of public policy, void, voidable, invalid or unenforceable for any reason, that separate division shall be treated as a nullity, but such holding or determination shall have no effect upon the validity or enforceability of each and every other separate division, or any combination thereof.
- G. As used in this Agreement, whenever reference is made to the trains, locomotives, cars or equipment of, or in the account of, one of the Parties hereto, such expression means the trains, locomotives, cars and equipment in the possession of or operated by one of the Parties and includes such trains, locomotives, cars and equipment which are owned by, leased to, or in the account of such Party. Whenever such locomotives, cars or equipment are owned or leased by one Party and are in the possession or account of the other Party, such locomotives, cars, and equipment shall be considered those of such other Party.
- H. This Agreement is the result of mutual negotiations of the Parties, neither of whom shall be considered the drafter for purposes of contract construction.
- I. The recitals to this Agreement are, by this reference, incorporated into and made a part of this Agreement.

- J. All matters related to the interpretation, construction, validity and enforcement of this Agreement shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts, without giving effect to any choice or conflict of laws, provision or rule that would cause the application of laws of any jurisdiction other than the Commonwealth of Massachusetts.
- K. This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute but one and the same instrument.
- L. Neither Party may disclose the provisions of this Agreement to a third party, excluding a parent, subsidiary or affiliate company or its counsel, auditors and accountants, without the written consent of the other Party, except as otherwise required by law, regulation or ruling.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first above written.

PROVIDENCE AND WORCESTER
RAILROAD COMPANY

By: 
Name: **BRIAN MCCLAIN - PRESIDENT - 11/20/2024 9:07:32 AM**
Title:

NORFOLK SOUTHERN
RAILWAY COMPANY

By: 
Name: Michael McClellan
Title: Vice President

PUBLIC VERSION

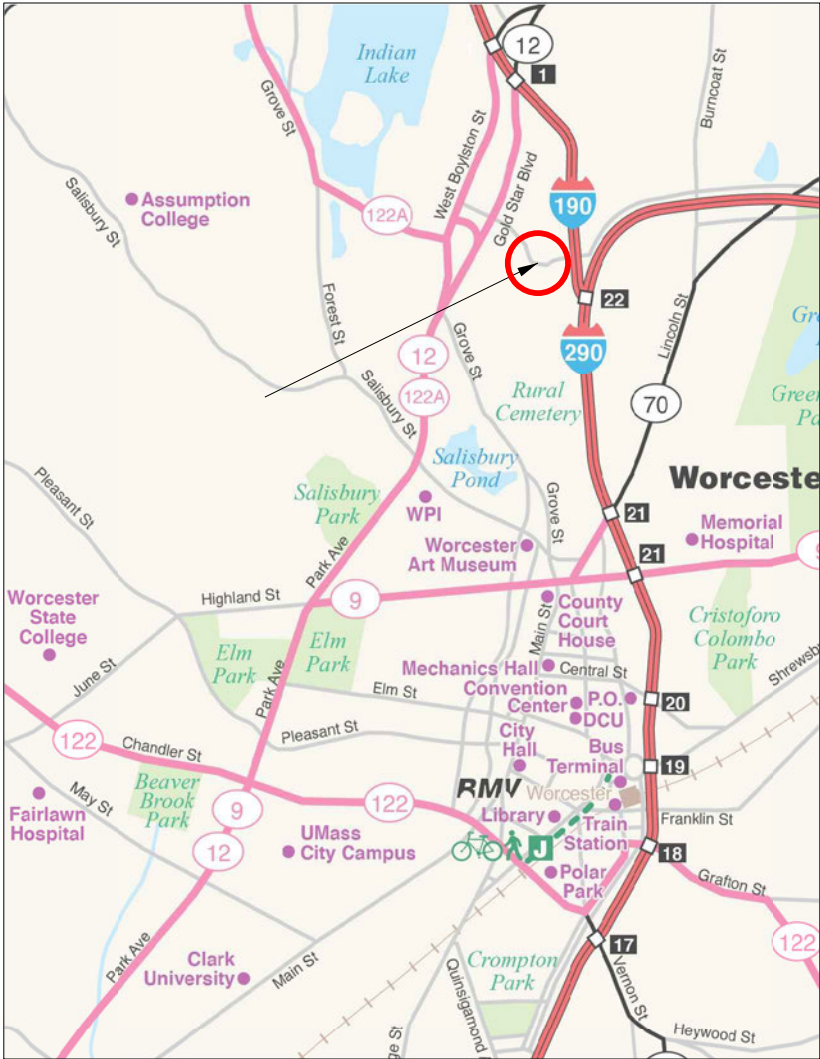
ATTACHMENT A

DESIGN SPECIFICATIONS FOR IMPROVEMENTS



G&W P&W, GARDNER BRANCH SUBDIV
WORCESTER, MA CLEARANCE IMPROVEMENT PROJECT
MILLBROOK STREET OVERHEAD BRIDGE 100% DESIGN

CONSTRUCTION SITE LOCATION MAP



NOTES:

- NOTE 1: -THE WORK FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION DATED JANUARY 2022 AND ANY SPECIAL PROVISIONS PROVIDED HEREIN.
- THE CONTRACTOR WILL ARRANGE A FLAGMAN WITH G&W. THE CONTRACTOR WILL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH NS AND G&W FLAGMAN.
- THE CONTRACTOR SHALL SUBMIT TO NS A PROPOSED CONSTRUCTION SCHEDULE PRIOR TO BEGINNING WORK.
- EXISTING SPEED IS 10MPH, DESIGN SPEED IS 10MPH. SPEED DURING CONSTRUCTION TO BE REDUCED AS SHOWN IN GEOMETRY TABLES ON SHEETS.
- NOTE 2: -THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT NS DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS WITH THE UTILITY COMPANIES NOT LESS THAN 48 HOURS BEFORE STARTING EXCAVATION ACTIVITIES.
- ALL CONSTRUCTION WORK WILL BE PERFORMED IN SUCH A MANNER AS TO CONTROL EROSION AND PREVENT SEDIMENTATION FROM LEAVING THE SITE. EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.
- RAILROAD RIGHT OF WAY LINES, IF SHOWN, WERE OBTAINED FROM VALUATION MAPS. ALL RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATION PURPOSES ONLY AS THEY HAVE NOT BEEN VERIFIED IN THE FIELD.
- NOTE 3: -THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY LOCAL CONSTRUCTION PERMITS THAT MAY BE REQUIRED FOR CONSTRUCTION OF THIS PROJECT.
- NOTE 4: -THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD LAYOUT AND CONSTRUCTION STAKING.
- NOTE 5: -THE CONTRACTOR SHALL OBTAIN ANY TEMPORARY CONSTRUCTION ENTRANCE AND/OR DRIVEWAY PERMITS FROM THE APPROPRIATE GOVERNING AGENCY.
- ON SITE AND GENERATED CONSTRUCTION DEBRIS IS TO BE DISPOSED OF AS NON-REGULATED SOLID WASTE IN COMPLIANCE WITHIN LOCAL REGULATIONS. IF SUSPECTED ENVIRONMENTAL PROBLEMS ARE ENCOUNTERED, CONTACT THE NS ENVIRONMENTAL PROTECTION DEPARTMENT TO ASSIST IN THEIR PROPER HANDLING AND REMOVAL.
- NOTE 6: -THE CONTRACTOR'S BID PRICE FOR CROSS TIE REMOVAL, IF REQUIRED, SHALL INCLUDE TRANSPORTATION AND LEGAL DISPOSAL.
- SELECTIVE TIE & TIMBER RENEWAL WILL BE REQUIRED IN AREAS TO BE UNDERCUT AND TRACK SHIFT, INCLUDING THE RELOCATED TURNOUT. TIES TO BE MARKED BY P&W DIRECTOR OF ENGINEERING OR HIS DESIGNEE.
- THE PROJECT COORDINATE SYSTEM IS: UNITED STATES/STATE PLANE US SURVEY FEET ZONE MASSACHUSETTS MAINLAND 2001 HORIZONTAL DATUM: NAD83 (2011) (EPOCH:2010.0000) VERTICAL DATUM: NAVD88 (G12AUS)

TABLE OF CONTENTS

SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	COVER SHEET	9	GEOMETRY TABLE
2	KEY PLAN	10	GRADING PLAN SHEET 1 OF 2
3	TYPICAL SECTIONS	11	GRADING PLAN SHEET 2 OF 2
4	CLEARANCE TEMPLATE	12	EROSION AND SEDIMENT CONTROL DETAILS 1 OF 2
5	GABION BASKET DETAIL	13	EROSION AND SEDIMENT CONTROL DETAILS 2 OF 2
6	MAIN TRACK 1 PLAN AND PROFILE SHEET 1 OF 2	14-28	TRACK CROSS SECTIONS
7	MAIN TRACK 1 PLAN AND PROFILE SHEET 2 OF 2		
8	INDUSTRY LEAD 1 PROFILE SHEET 1 OF 1		

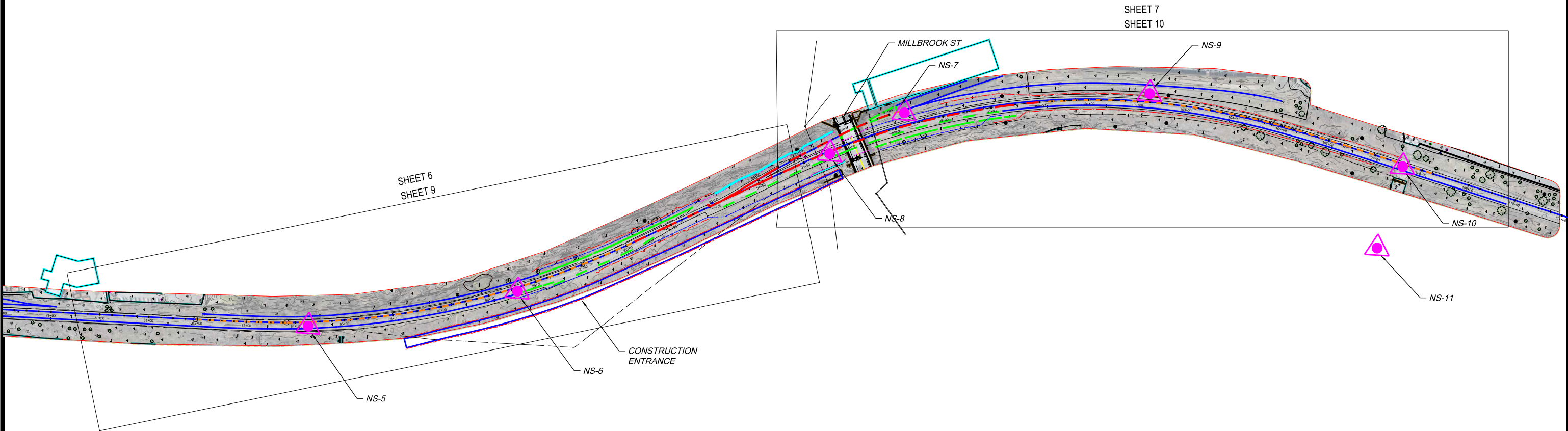
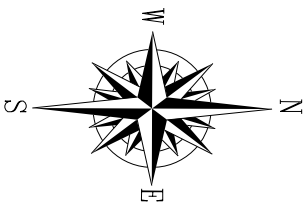


OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.
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DATE PRINTED: #DATE#
CADD FILE: #FILE#
LAST SAVED: #LASTSAVEDDATE#

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TITLE COVER			
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DWN	HM	FILE No.	TRK1114427
CHK	NB	DATE	05-24-2024
DRAWING NUMBER TB-2022-11			MILE POST MP 0.6-2.0

TO WORCESTER, MA
←

TO AYER, MA
→



CONTROL POINTS ▲

POINT NUMBER	NORTHING	EASTING	ELEVATION GPS	STATION	OFFSET
NS-5	2928782.125	575392.768	504.360	84+26.23	9.22' RT
NS-6	2929203.557	575290.598	507.950	88+58.98	7.37' RT
NS-7	2929966.271	574870.730	514.490	97+26.40	23.22' LT
NS-8	2929820.010	574964.777	514.170	95+55.85	5.18' RT
NS-9	2930463.418	574796.080	517.870	102+24.62	16.53' LT
NS-10	2930989.785	574908.025	521.220	107+61.31	5.40' RT
NS-11	2930949.692	575077.754	542.500	107+63.01	179.79' RT

LEGEND

EXISTING TRACK

PROPOSED TRACK

TRACK TO BE SHIFTED/LINED

C/L TRACK TO BE REMOVED

DITCH FLOW LINE

6" HDPE UNDERDRAIN LINE

PROPOSED GABION BASKET

SCALE: 1" = 100' DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN



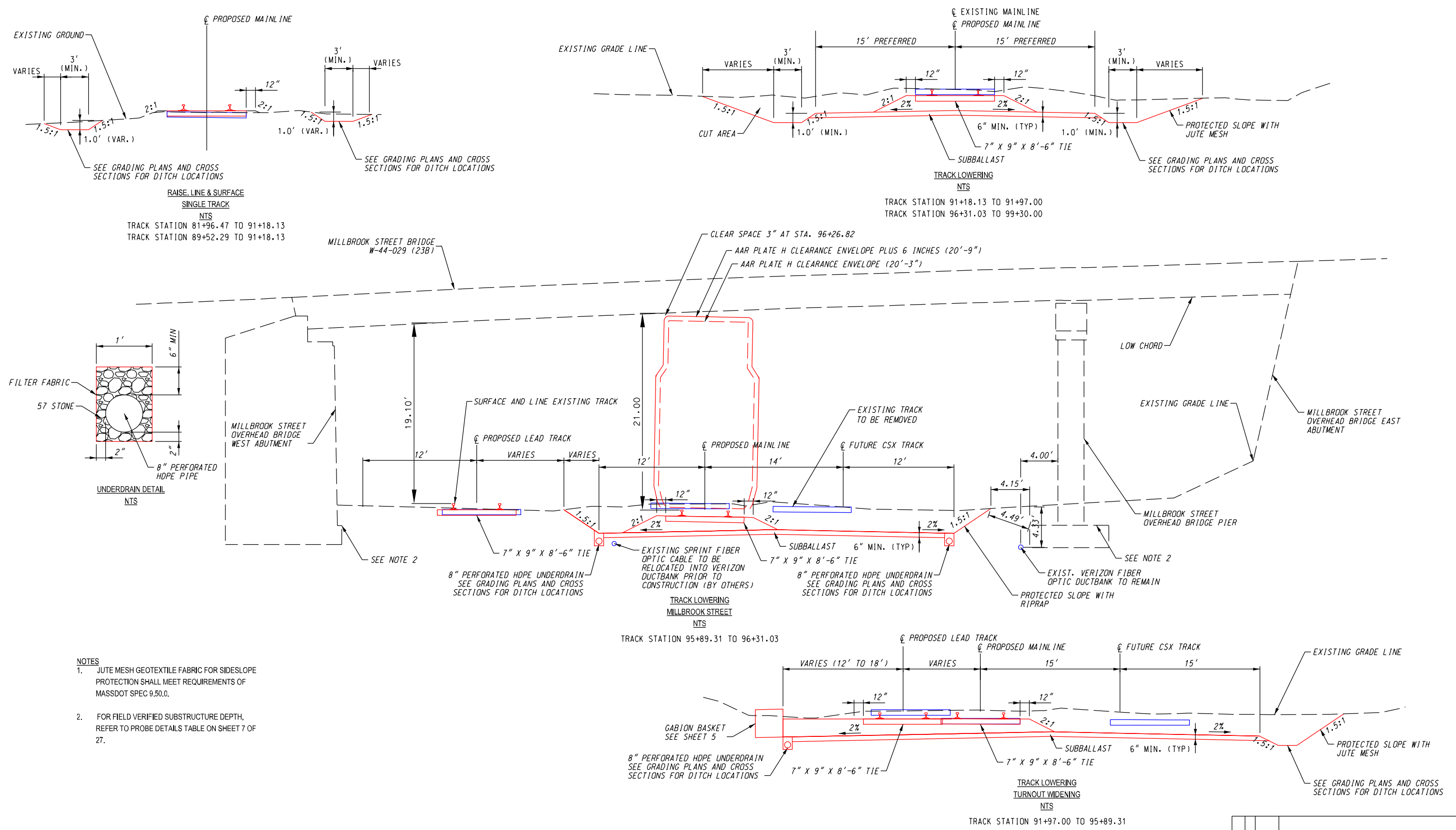
NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	DD	05-24-2024	KEY PLAN
G&W PW, GARDNER BRANCH SUBDIV			
FILE No.	D3120	FILE No.	TRK1114427
DATE	05-24-2024	DATE	05-24-2024
FILE	RELEAS	FILE	RELEAS
LAST SAVED	5/24/24	LAST SAVED	5/24/24

PUBLIC VERSION



- NOTES
- JUTE MESH GEOTEXTILE FABRIC FOR SIDESLOPE PROTECTION SHALL MEET REQUIREMENTS OF MASSDOT SPEC 9.50.0.
 - FOR FIELD VERIFIED SUBSTRUCTURE DEPTH, REFER TO PROBE DETAILS TABLE ON SHEET 7 OF 27.

LEGEND

- EXISTING SURFACE
- EXISTING CONDITION
- PROPOSED WORK



SCALE: 1" = 5'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

NS NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

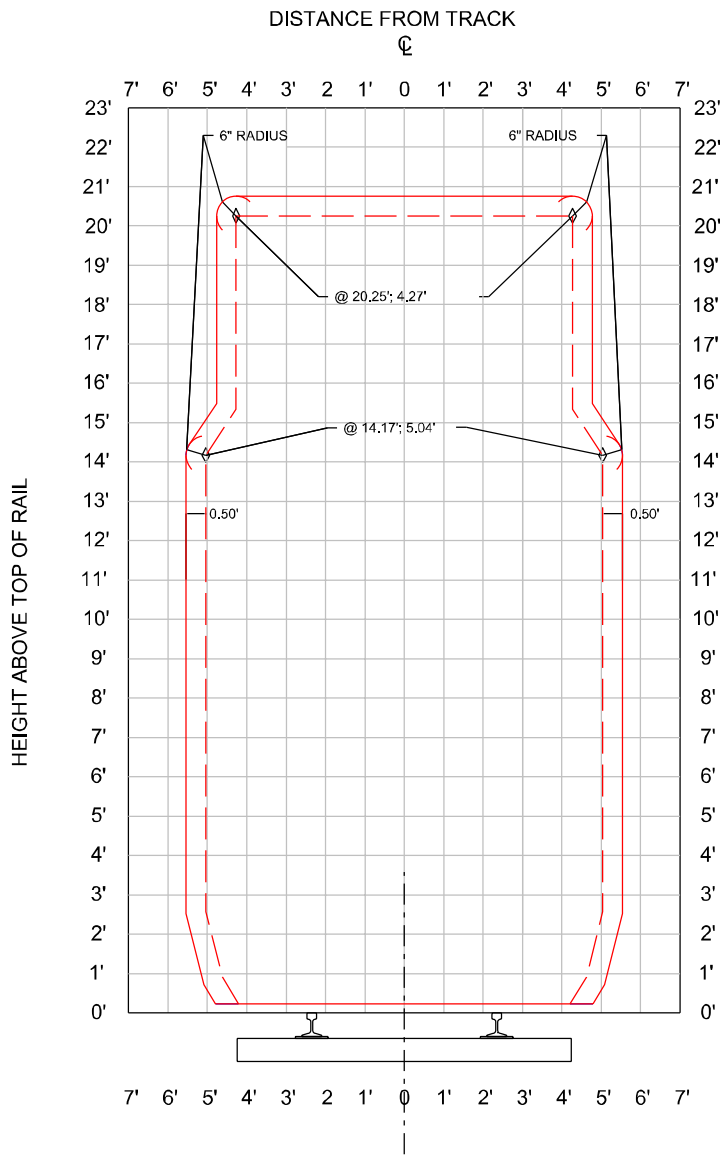
OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

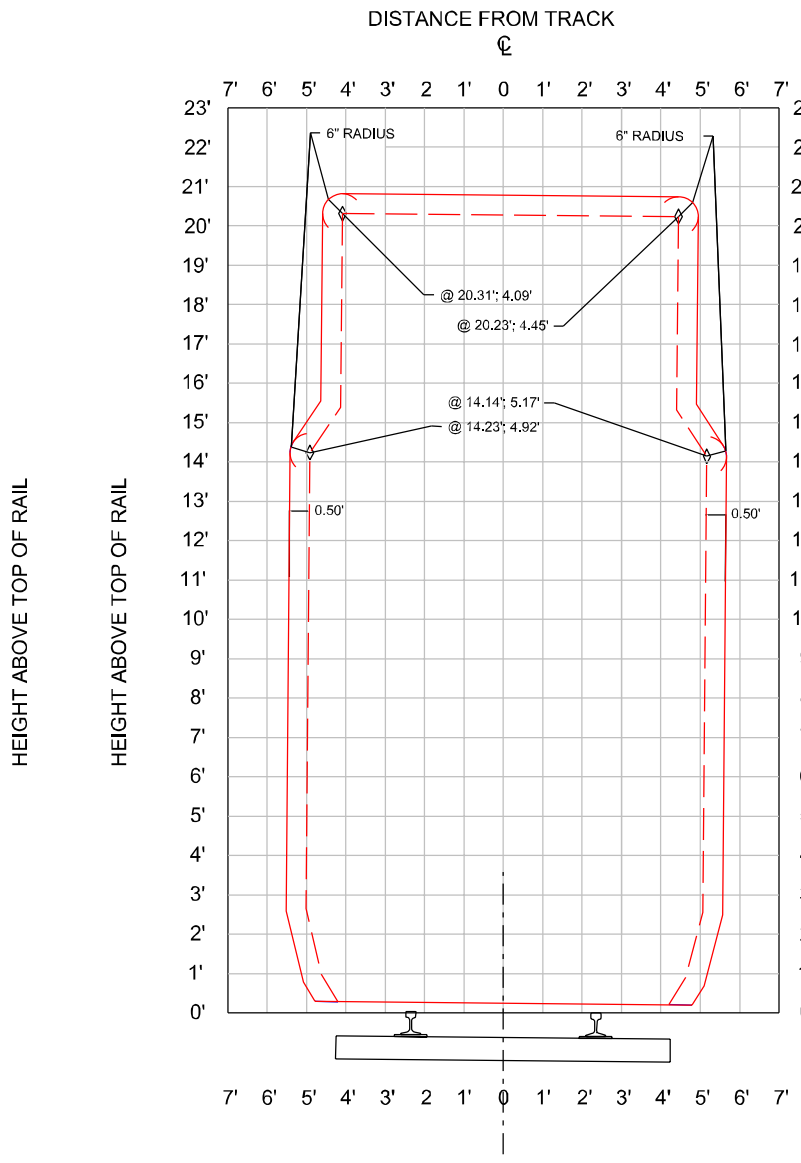
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DATE PRINTED: 7/18/2024

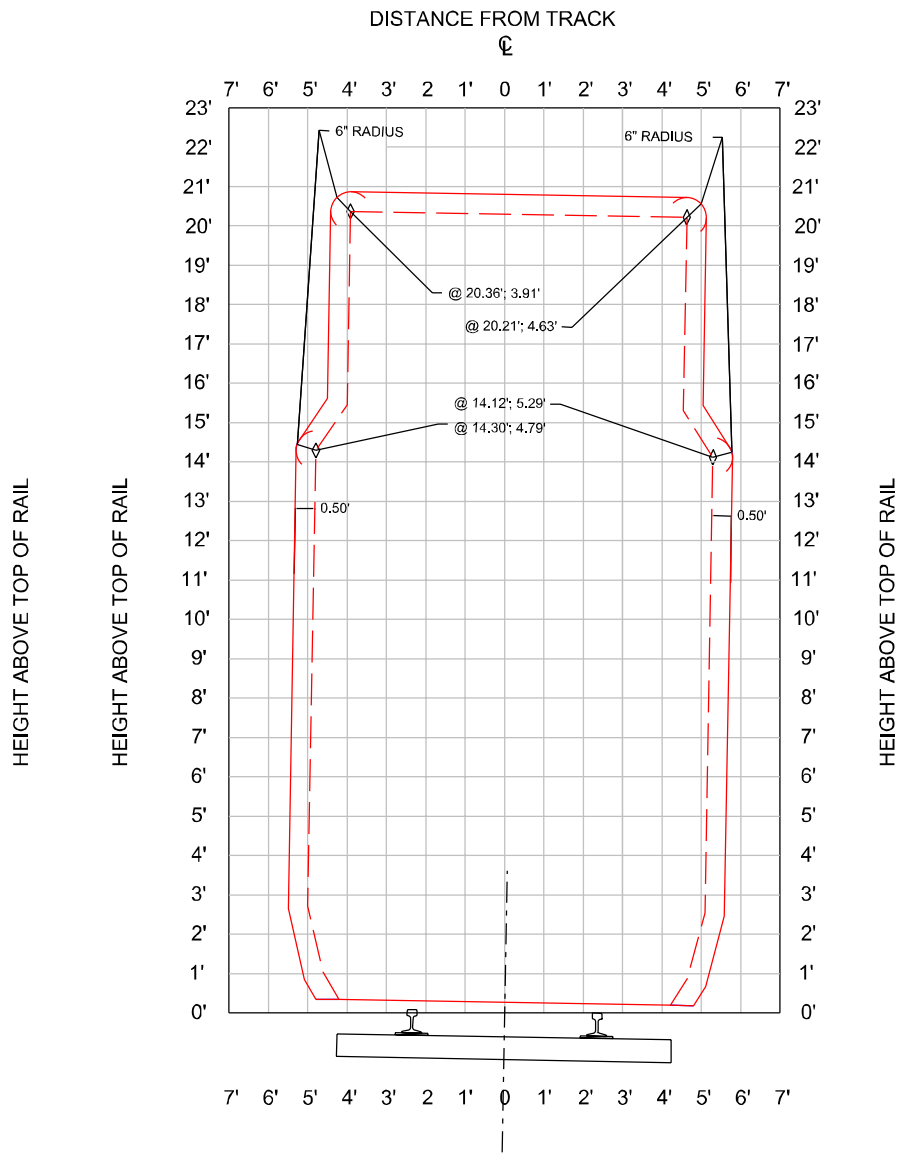
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TITLE			
TYPICAL SECTIONS			
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CHK	NB	DATE 05-24-2024	TB-2022-11
CADD FILE: ...NS.Worcester.1.Typical Sections.dgn			SHEET 3 OF 28
LAST SAVED: 5/24/2024			



TANGENT TRACK
CLEARANCE TEMPLATE



SUPERELEVATION 0.5"
CLEARANCE TEMPLATE



SUPERELEVATION 1.0"
CLEARANCE TEMPLATE

LEGEND

- ARR PLATE H CLEARANCE ENVELOPE
- AAR PLATE H CLEARANCE WITH 6" BUFFER



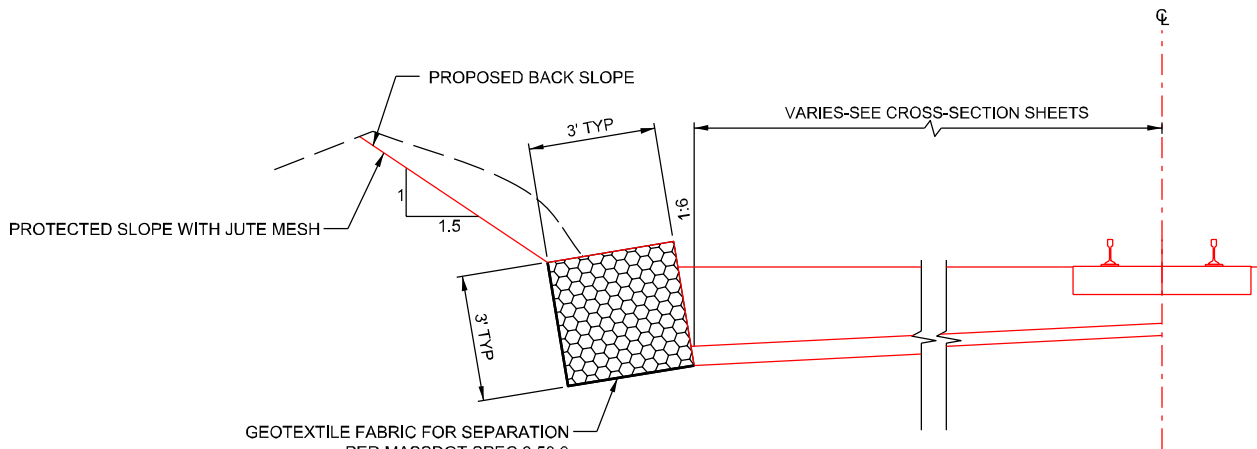
SCALE:



OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

REV. BY	DATE	DESCRIPTION
LOCATION		G&W PW, GARDNER BRANCH SUBDIV
TITLE		CLEARANCE TEMPLATE
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DWN HM	FILE No. TRKIII4427	DRAWING NUMBER
CHK NB	DATE 05-24-2024	TB-2022-11
CADD FILE: ...NS.Worcester.1.Clarance.Template.dgn		SHEET 4 OF 28
LAST SAVED: 5/17/2024		



GABION WALL SECTION
NTS

NOTE:
REQUIRED MINIMUM UNIT
WEIGHT OF STONE IS 120 LB/CF

GABION WALL LIMITS								
STRUCTURE NUMBER	STA START	START OFFSET TO FACE	STA END	END OFFSET TO FACE	REFERENCE TRACK	WALL LENGTH (FT)	WALL HEIGHT (FT)	SF OF WALL FACE
GW1	93+10	22.00' LT	93+20	18.00' LT	SIDING 1	10	3	30
GW1	93+20	18.00' LT	93+66	18.00' LT	SIDING 1	46	3	138
GW1	93+66	18.00' LT	94+13	12.00' LT	SIDING 1	47	3	141
GW1	94+13	12.00' LT	94+85	12.00' LT	SIDING 1	72	3	216
GW1	94+85	12.00' LT	94+95	8.00' LT	SIDING 1	10	3	30
GW1	94+95	8.00' LT	95+05	8.00' LT	SIDING 1	10	3	30
GW1	95+05	8.00' LT	95+15	12.00' LT	SIDING 1	10	3	30
GW1	95+15	12.00' LT	95+85	12.00' LT	SIDING 1	70	3	210
GW2	95+05	15.00' RT	95+85	15.00' RT	MAINLINE	80	3	240

LEGEND



SCALE: 1" = 50'

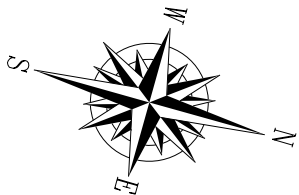
NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
DIVISION COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV.	BY	DATE	DESCRIPTION
1			
LOCATION			G&W PW, GARDNER BRANCH SUBDIV
TITLE			GABION BASKET DETAIL
DESIGN	DD	PID No. D3120	MP 0.6-2.0
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CHECK	NR	DATE 05-24-2024	TB-2022-11

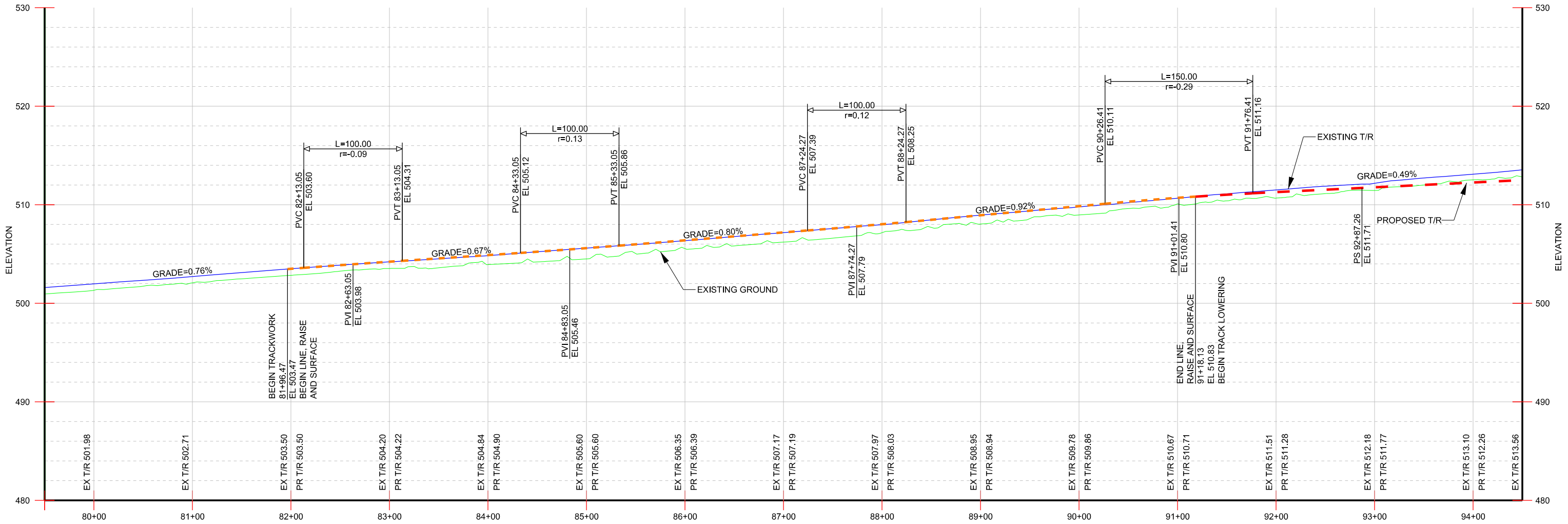
TO WORCESTER, MA

TO AYER, MA



CURVE W1-3				
D	3°30'00"	ΔI	28°09'54"	
R	1637.28'	Δc	21°39'22"	
Lc	618.84'	Δs	3°15'16"	
Ls	186.00'	Ts	503.94'	
Ds	10 mph	SE	1.00"	

CURVE L1-1				
D	6°00'00"	ΔI	3°41'49"	
R	955.36'	Δc	3°41'49"	
Lc	61.64'	Δs	0°00'00"	
Ls	0.00'	Ts	30.83'	
Ds	10 mph	SE	0.00"	



NOTES
1.

- LEGEND**
- EXISTING TRACK
 - PROPOSED TRACK
 - TRACK TO BE SHIFTED/LINED
 - TRACK TO BE REMOVED
 - EXISTING SURFACE
 - FIBER OPTICS LINE
 - RIGHT OF WAY
 - PROPOSED GABION BASKET

SCALE: 1" = 50'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

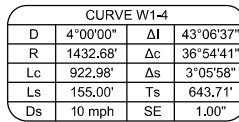
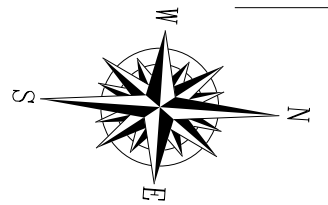


NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	DD	05-24-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE: MAIN TRACK 1 PLAN AND PROFILE SHEET 1 OF 2			
DRN	DD	05-24-2024	FILE NO. D3120
CHK	HM	05-24-2024	FILE NO. TRK1114427
DRAWING NUMBER: TB-2022-11			FILE POST MP 0.6-2.0
SHEET 6 OF 28			

TO WORCESTER, MA

TO AYER, MA



PROBE	PROBE DETAILS				SURFACE ELEV (FT)	FOOTING ELEV (FT)	DEPTH (FT)
	STATION	OFFSET	NORTHING	EASTING			
P1	95+93.97	L	2929 830.24	574 907.95	516.80	511.80	5
P2	96+11.69	L	2929 846.50	574 899.93	516.76	511.76	5
P3	96+22.91	L	2929 856.83	574 894.53	516.77	511.77	5
P4	95+99.76	R	2929 867.24	574 974.82	516.84	511.84	5
P5	96+08.43	R	2929 875.03	574 971.54	516.81	511.81	5
P6	96+14.62	R	2929 880.34	574 968.64	516.84	511.84	5



LEGEND

	EXISTING TRACK		EXISTING SURFACE
	PROPOSED TRACK		FIBER OPTICS LINE
	TRACK TO BE SHIFTED/LINED		FIBER OPTICS LINE TO BE RELOCATED
	TRACK TO BE REMOVED		RIGHT OF WAY
			PROPOSED GABION BASKET



SCALE: 1" = 50'

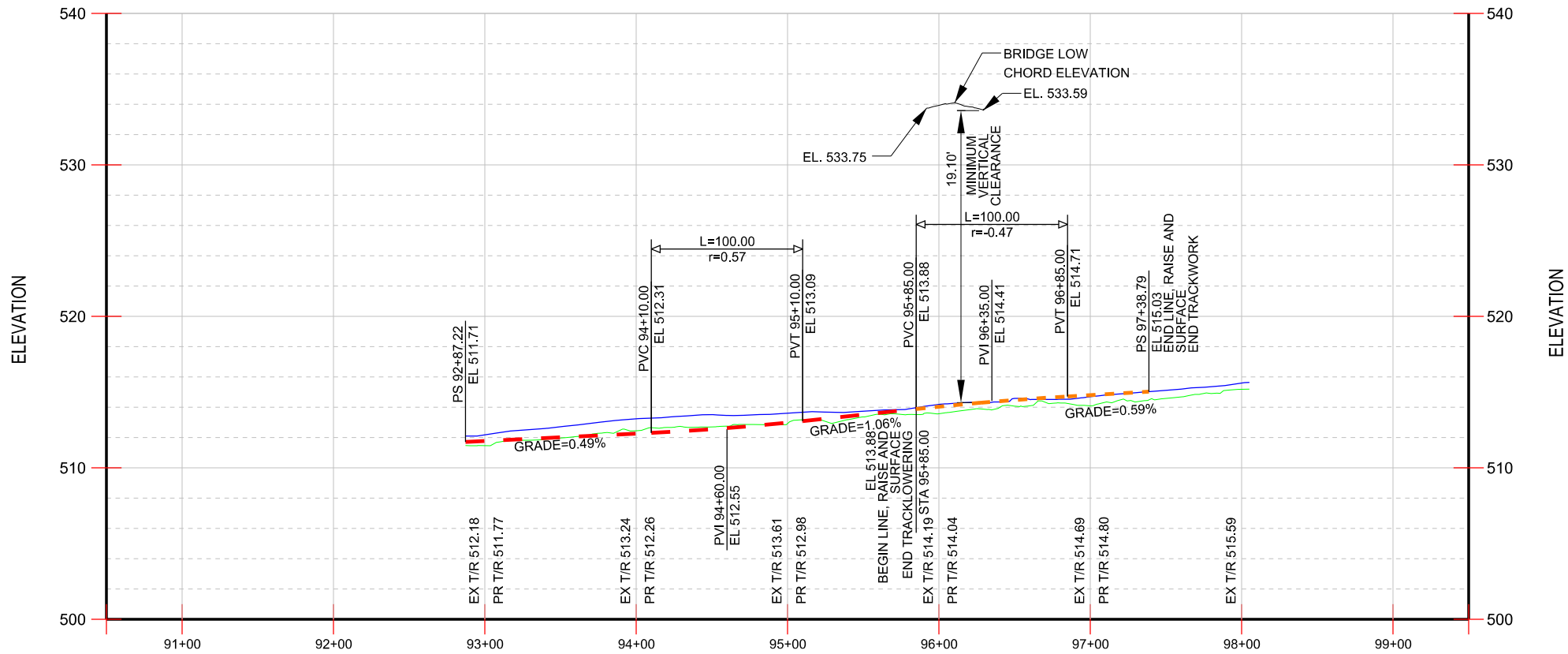
25' 0' 50' 150'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

 **NORFOLK SOUTHERN**
NORFOLK SOUTHERN RAILWAY COMPANY

MODEL NAME: \$MODELNAME\$
DATE PRINTED: \$DATE\$

REV	BY	DATE	DESCRIPTION		
LOCATION G&W PW, GARDNER BRANCH SUBDIV					
TITLE MAIN TRACK 1 PLAN AND PROFILE SHEET 2 OF 2					
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					MILE POST MP 0.6-2.0
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CHK	NB	DATE	05-24-2024		TR-2022-11
CADD FILE #		#ILLUS			
LAST SAVED:		#LAST SAVED DATE			
				SHEET 7 OF 28	



EXISTING T/R

PROPOSED T/R

EXISTING SURFACE



SCALE: 1" = 50'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV.	BY	DATE	DESCRIPTION
1			
LOCATION: G&W PW, GARDNER BRANCH SUBDIV			
TITLE: INDUSTRY LEAD 1 PROFILE SHEET 1 OF 1			
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CHK	HM	FILE No. TRK1114427	DRAWING NUMBER
CHK	NR	DATE 05-24-2024	TB-2022-11
CADD FILE: *FILE* LAST SAVED: *LASTSAVEDDATE*			SHEET 8 OF 28

MILLBROOK GEOMETRY DATA											
Element	Curve	Point	Station	Bearing	Coordinates		Data				
					Northing	Easting					
TANGENT		PT	73+27.40	N 1°05'40.92" W	2927676.981	575410.3817	Lt=869.065' CURVE SET: ANGLE (1)= 28°09'54.50" Lt PI: N2929049.7325, E575384.1506				
SPIRAL		POB/TS	81+96.47		2928545.888	575393.7783	CURVE SET: ANGLE (1)= 28°09'54.50" Lt PI: N2929049.7325, E575384.1506	Delta s= 3°15'16.18" X=185.940'	Ls=186.000' Y=3.521'	LT=124.021' o=0.880'	ST=62.019' Xo=92.990'
		Pls	83+20.49		2928669.886	575391.4088					
CURVE	W1-3	SC	83+82.47		2928731.726	575386.7056	PI STATION: 87+00.41 Delta c=21°39'22.14" Tc=313.159' V=10mph	Delta c=21°39'22.14" Tc=313.159' V=10mph	Dc=3°30'00.00" Ec= 29.680' Ee=2.21"	R=1637.277' CC: N2928607.5638, Ea=1.00"	Lc(chord)=618.843' E573754.1435 Eu=1.21"
		Plc	86+95.63		2929043.984	575362.9573					
SPIRAL		CS	90+01.22		2929325.436	575225.6513	Delta s= 3°15'16.18" X=185.940'	Ls=186.000' Y=3.521'	LT=124.021' o=0.880'	ST=62.019' Xo=92.990'	
		Pls	90+63.23		2929381.176	575198.4587					
TANGENT		ST	91+87.22		2929489.373	575137.8408	Lt=215.843' CURVE SET: ANGLE (1)= 43°06'36.87" Rt PI: N2930239.2582, E574717.7159				
SPIRAL		TS	94+03.06	N 29°15'35.41" W	2929677.677	575032.3432	Delta s= 3°05'57.73" X=154.955'	Ls=155.000' Y=2.794'	LT=103.349' o=0.699'	ST=51.681' Xo=77.492'	
		Pls	95+06.41		2929767.84	574981.8291					
CURVE	W1-4	SC	95+58.06		2929814.227	574959.0436	PI STATION: 100+46.77 Delta c=36°54'41.41" Tc=478.140' V=10mph	Delta c=36°54'41.41" Tc=478.140' V=10mph	Dc=4°00'00.00" Ec= 77.680' Ee=2.52"	R=1432.685' CC: N2930445.8789, Ea=1.00"	Lc(chord)=922.975' E576244.9687 Eu=1.02"
		Plc	100+36.20		2930243.388	574748.2382					
SPIRAL		CS	104+80.85		2930713.135	574837.4312	Delta s= 3°05'57.73" X=154.955'	Ls=155.000' Y=2.794'	LT=103.349' o=0.699'	ST=51.681' Xo=77.492'	
		Pls	105+32.53		2930763.909	574847.0719					
TANGENT		ST	106+35.85		2930864.253	574871.8124	Lt=810.745'				
		POE	114+46.59		N 13°51'01.46" E	2931651.424					

MILLBROOK SIDING GEOMETRY DATA											
Element	Curve	Point	Station	Bearing	Coordinates		Data				
					Northing	Easting					
TANGENT		POB	92+87.26	N 29°15'35.41" W	2929576.614	575088.9637	Lt=29.859'				
TANGENT		PI	93+17.11	N 34°59'04.41" W	2929602.663	575074.3697	Lt=109.431'				
CURVE	C1 - 1	PC	94+26.55		2929692.321	575011.6265	PI: N2929717.582, E574993.949	Delta c=3°41'48.62"	Dc=6°00'00.00"	R=955.364'	Lc(chord)=61.642'
		PC	94+57.38		2929717.582	574993.949	PI STATION= 94+57.38	Tc=30.832'	Ec= 0.497'	CC: N2930240.0848,	E575794.3627
TANGENT		PT	94+88.16	N 31°17'15.79" W	2929743.93	574977.937	Lt=100.784'				
CURVE	C1 - 2	PC	95+88.94		2929830.057	574925.5963	PI: N2929882.396, E574893.789	Delta c=9°46'03.68"	Dc=8°00'00.00"	R=716.779'	Lc(chord)=122.195'
		PC	96+50.19		2929882.396	574893.789	PI STATION= 96+50.19	Tc=61.246'	Ec= 2.612'	CC: N2930202.3060,	E575538.1346
TANGENT		PT	97+11.04	N 21°31'12.11" W	2929939.372	574871.3223	Lt=94.138'				
		POE	98+05.18		2930026.948	574836.79					

LEGEND



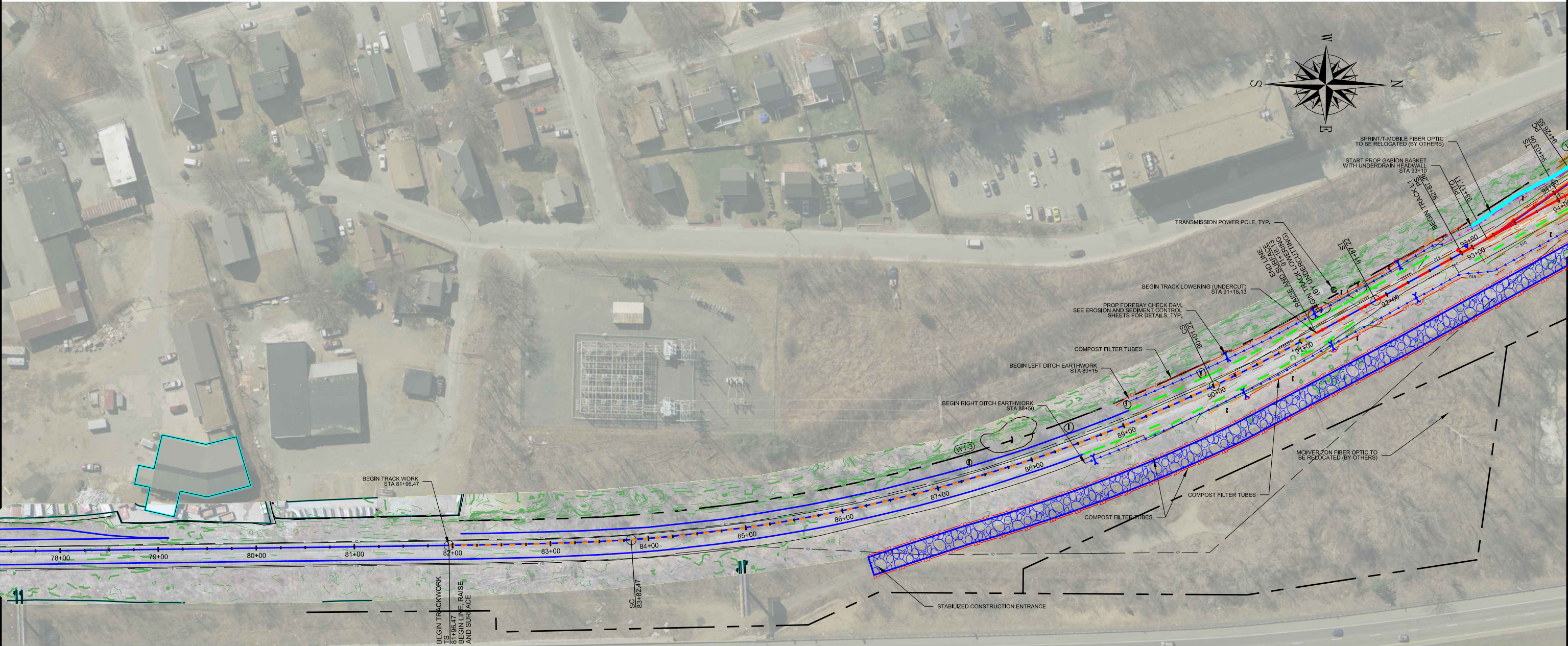
NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
LOCATION: G&W PW, GARDNER BRANCH SUBDIV			
TITLE: GEOMETRY TABLES			
ISSN	DD	RID No. D3120	RIN
OWN	HM	FILE No. TRKIII4427	DRAWING NUMBER
CHK	NB	DATE 05-24-2024	TB-2022-11
CADD FILE: *FILEL*		SHEET 9 OF 28	
LAST SAVED: *LASTSAVEDDATE*			

TO WORCESTER, MA

TO AYER, MA



LEGEND	
	PROPOSED/EXISTING TRACK
	TRACK TO BE LINED/SHIFTED
	TRACK TO BE REMOVED
	COMPOST FILTER TUBES
	DITCH FLOW LINE
	6" HDPE UNDERDRAIN LINE
	RIGHT OF WAY
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED LIMIT OF WORK
	FIBER OPTICS LINE
	PROPOSED GABION BASKET
	PROPOSED FOREBAY CHECK DAM
	PROPOSED HEADWALL

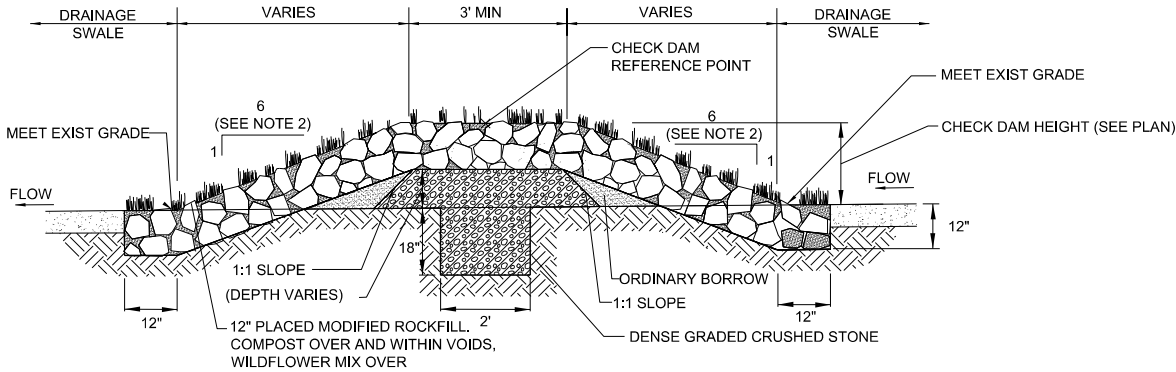


SCALE: 1" = 50'

NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

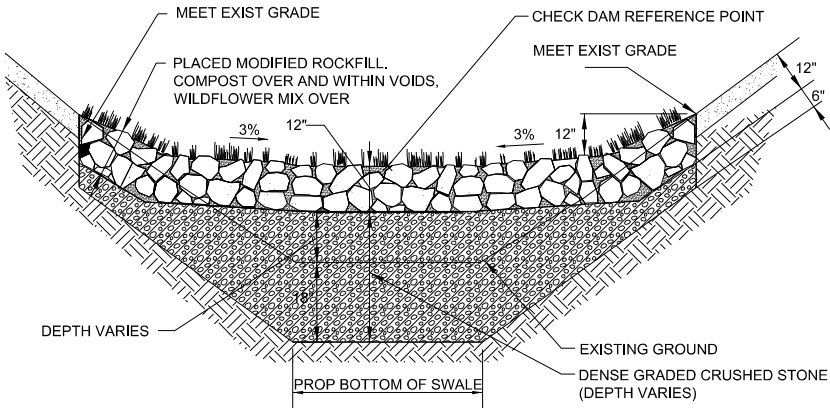
REV.	BY	DATE	DESCRIPTION
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GRADING PLAN SHEET 1 OF 2			
CON	KM	FILE No. D3120	MILE POST MP 0.6-2.0
DWN	JS	FILE No. TRK1114427	DRAWING NUMBER
CHK	MM	DATE 05-24-2024	TB-2022-11
SHEET 10 OF 28			





SECTION A-A

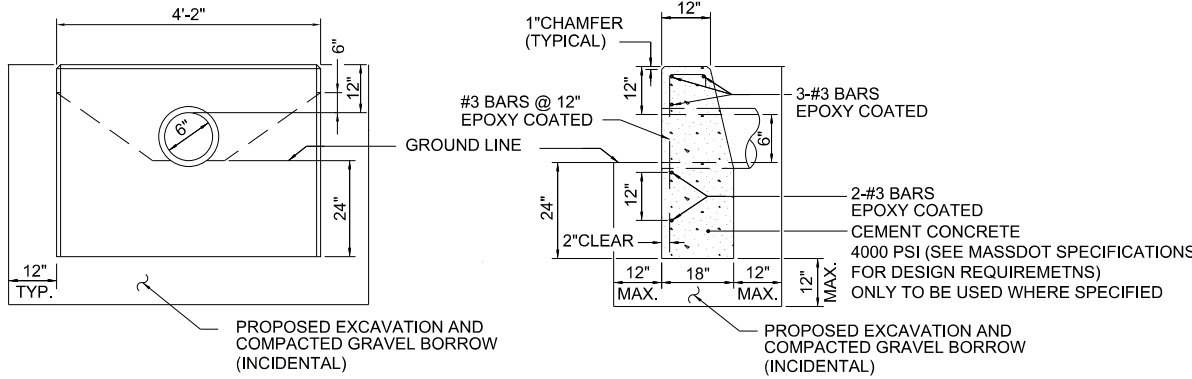
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SECTION B-B

N.T.S.

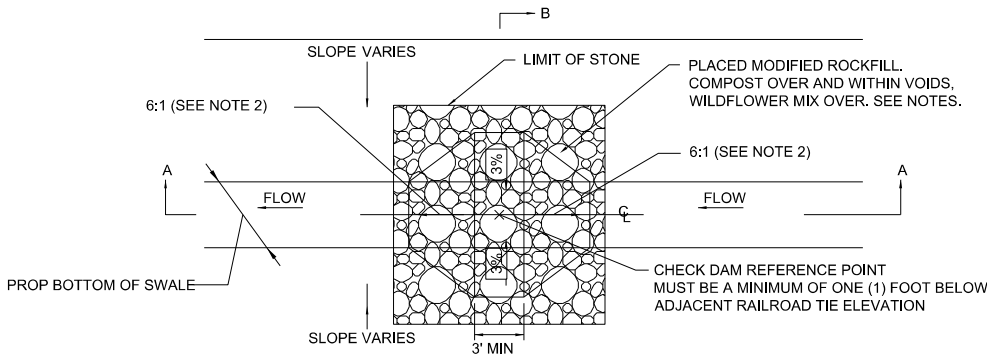
LEGEND



FRONT ELEVATION

END ELEVATION

CONCRETE HEADWALL
6" TO 30" DIAMETER PIPE
NTS



PLAN VIEW

N.T.S.

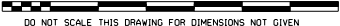
NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THAT THE DIFFERENCE BETWEEN CHECK DAM REFERENCE POINT ELEVATION AND ADJACENT RAILROAD TIE ELEVATION IS NOT LESS THAN 1-FOOT. IF FIELD CONDITIONS DO NOT RESULT IN 1-FOOT ELEVATION DIFFERENCE BETWEEN PROVIDED CHECK DAM REFERENCE POINT AND ADJACENT RAILROAD TIE ELEVATION AT EDGE OF PAVEMENT, CONTRACTOR SHALL NOTIFY ENGINEER.
2. 6:1 SLOPE. STEEPER TRAVERSE SLOPES ARE PERMISSABLE (3:1 MAXIMUM) WITH LONGITUDINAL ROADSIDE BARRIER AREA.
3. APPLY COMPOST MATERIAL OVER AND WITHIN THE MODIFIED ROCKFILL. MATERIAL SHOULD BE PLACED SO THAT SETTLED MATERIAL IS AT OR SLIGHTLY BELOW SURFACE PLANE OF STONE AND SHALL BE WORKED INTO THE VOIDS OF THE MODIFIED ROCK FILL. COMPOST SHALL BE RAKED BY HAND.
4. SEED OVER COMPOST SHALL BE ITEM 765.7 - SEEDING - WILDFLOWER MIX

CHECK DAM

N.T.S.

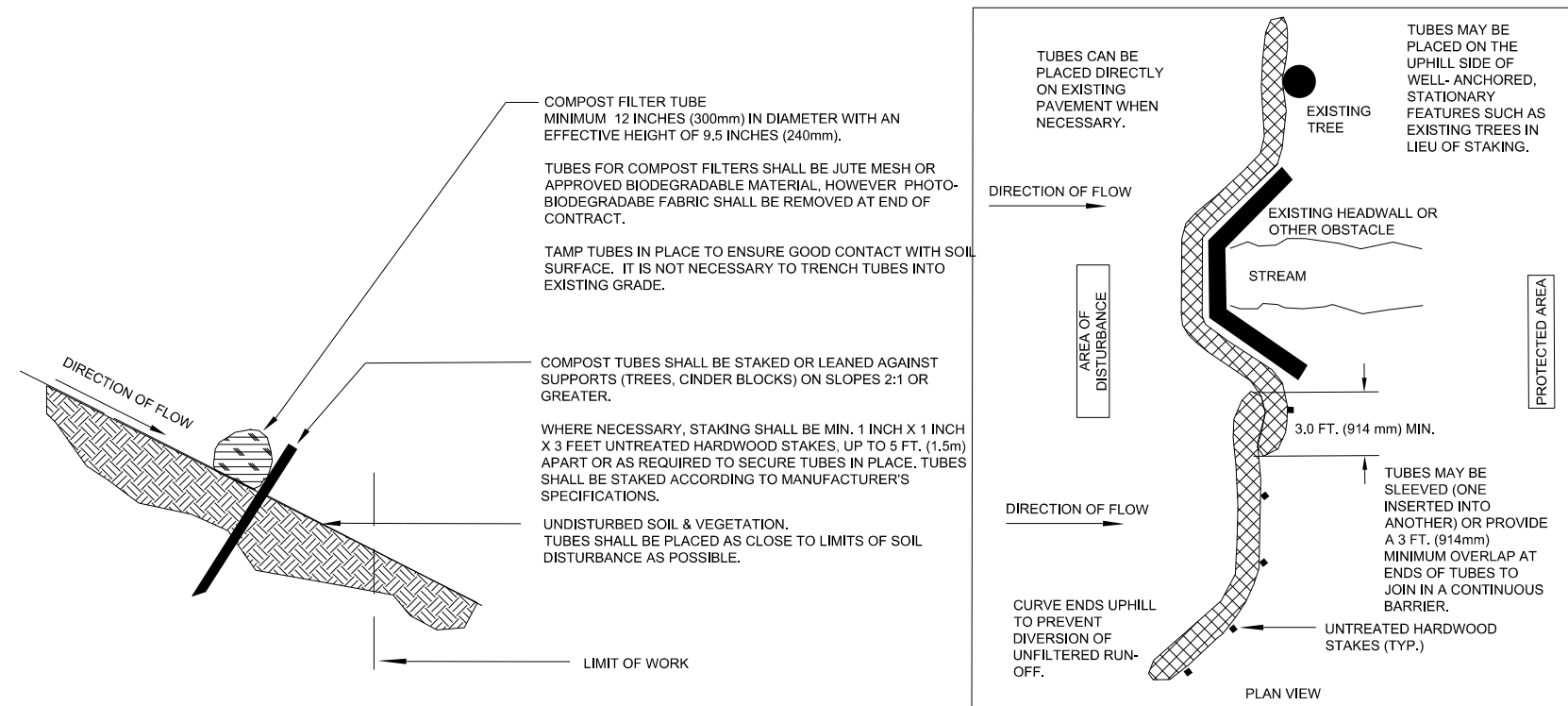
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MODEL NAME: #MODELNAME#
DATE PRINTED: #DATE#
OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV.	BY	DATE	DESCRIPTION
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4	MM	05-24-2024	1 of 2
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98	MM	05-24-2024	1 of 2
99	MM	05-24-2024	1 of 2
100	MM	05-24-2024	1 of 2

PUBLIC VERSION



- GENERAL NOTES:**
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
 2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
 3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
 4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
 5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
 6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

COMPOST FILTER TUBE DETAIL

NTS

LEGEND



SCALE: NTS

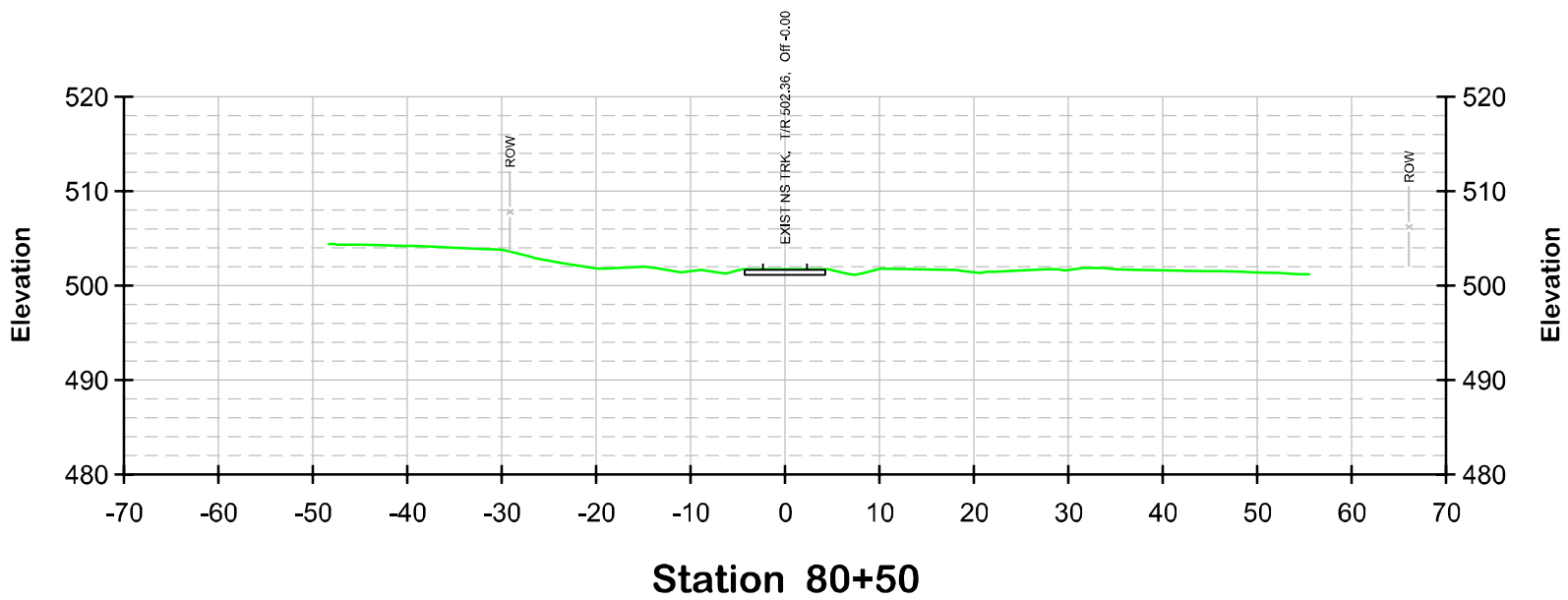
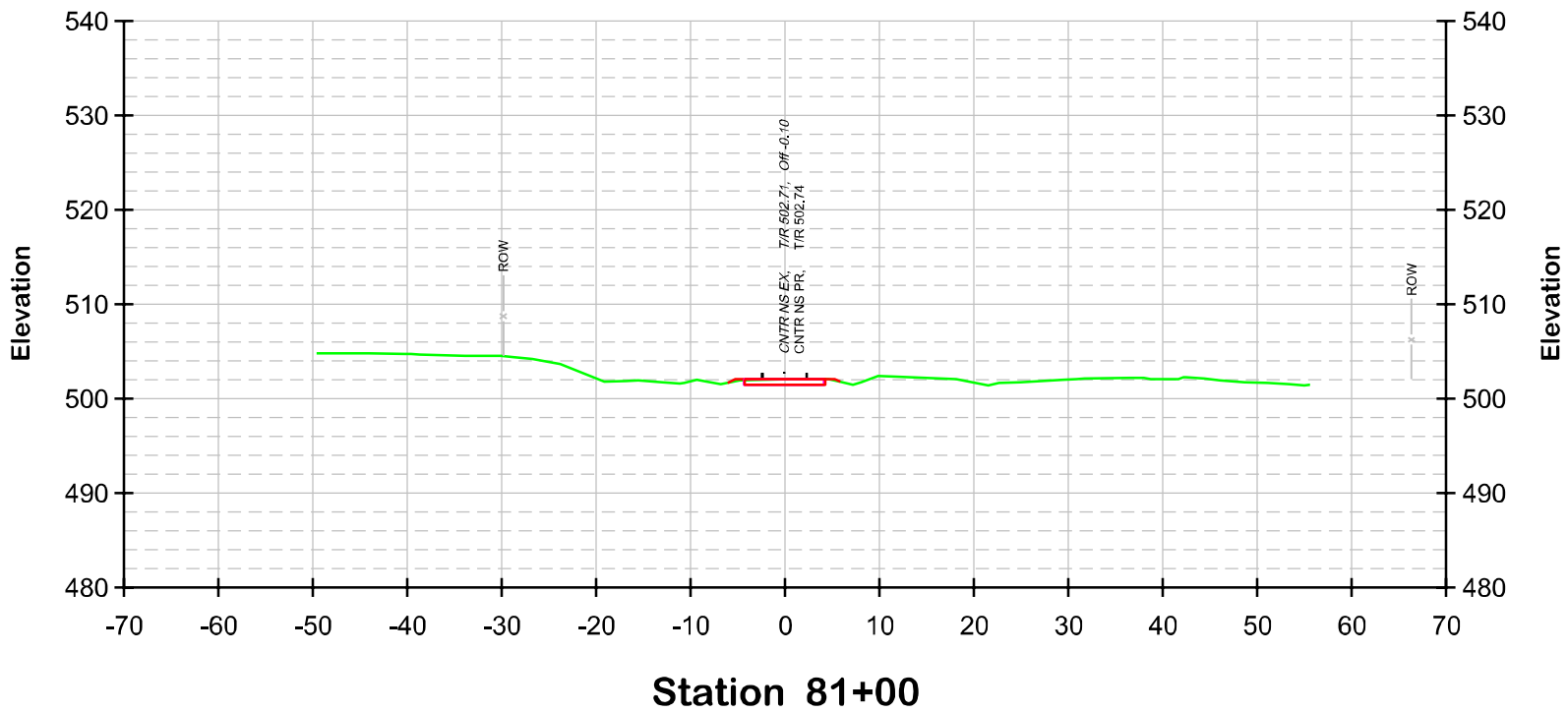
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN



NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

[illegible]



- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK TO BE REMOVED
 - EXISTING TRACK
 - PROPOSED TRACKWORK



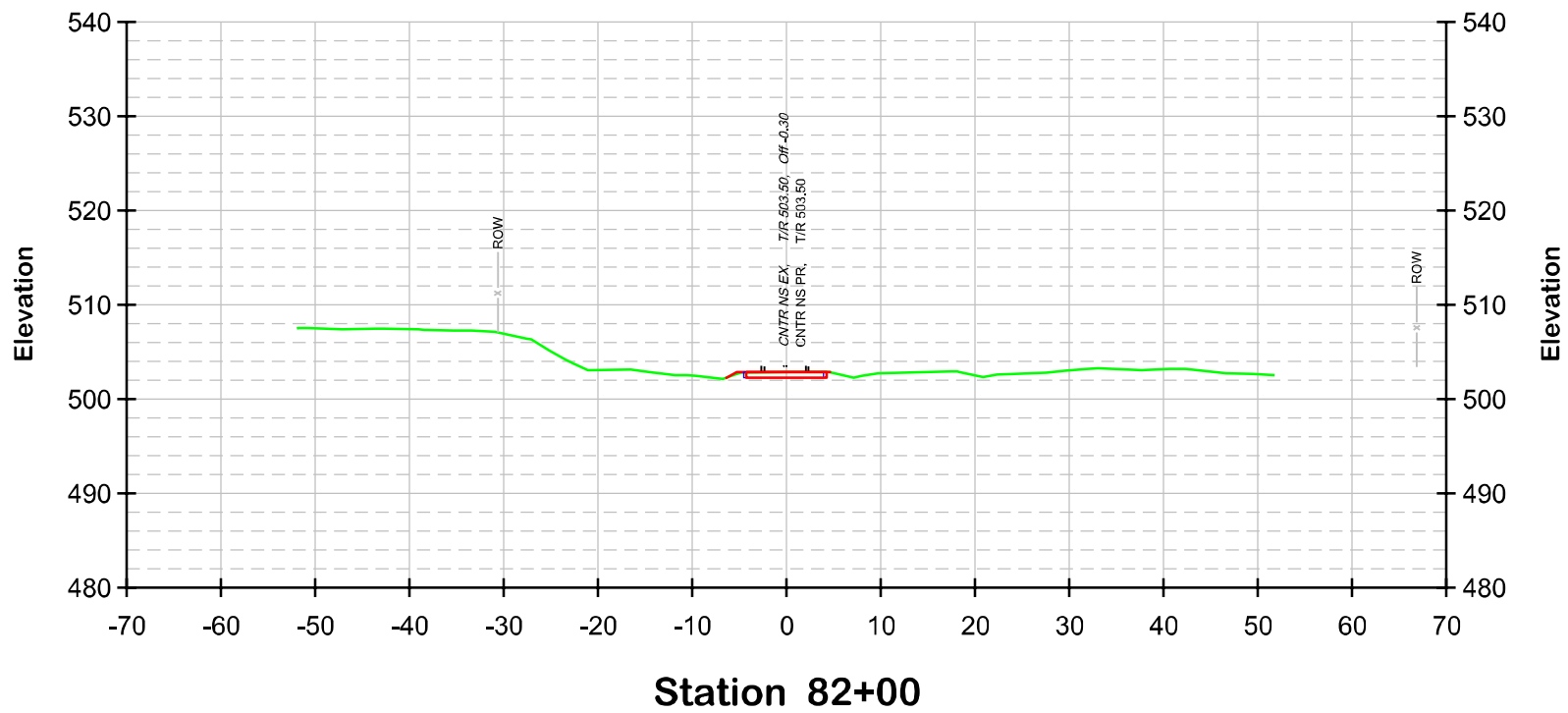
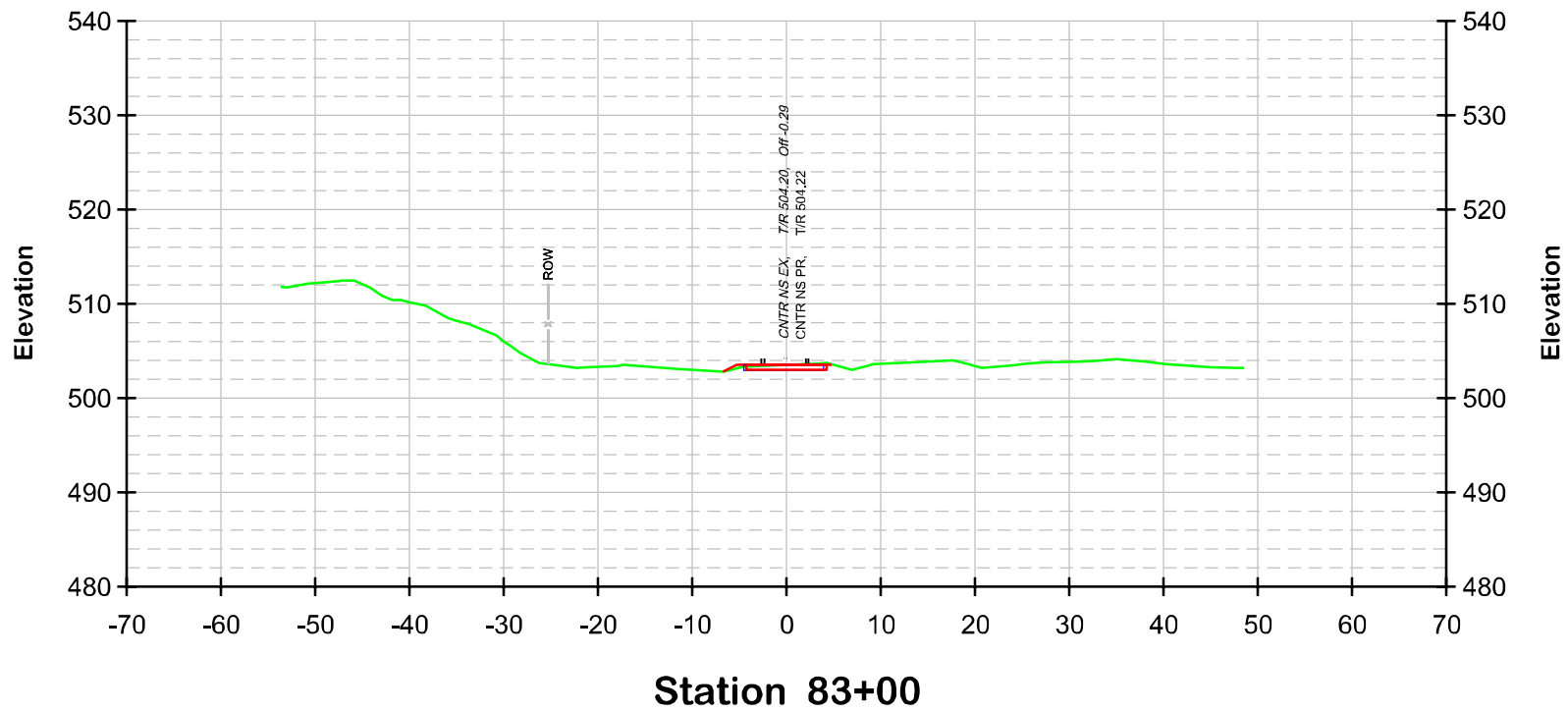
SCALE: 1" = 10'



OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

REV	BY	DATE	DESCRIPTION
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TITLE			
TRACK CROSS SECTION			
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DRAWN	HM	FILE No. TRK114427	DRAWING NUMBER
CHECK	NR	DATE 05-24-2024	TB-2022-11
CADD FILE: ...NS.Worcester.L1X581.dgn			
LAST SAVED: 5/17/2024			
SHEET 14 OF 28			



- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK TO BE REMOVED
 - EXISTING TRACK
 - PROPOSED TRACKWORK



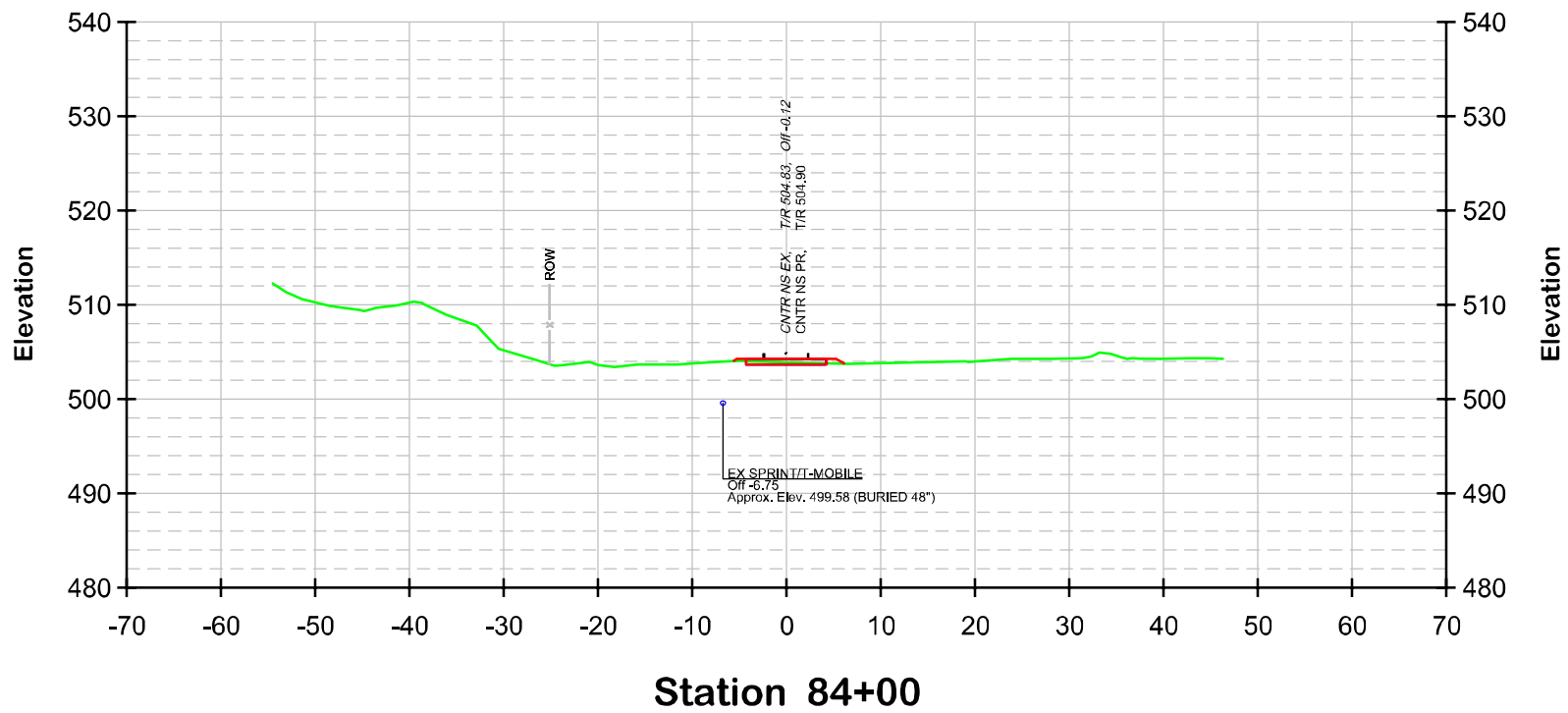
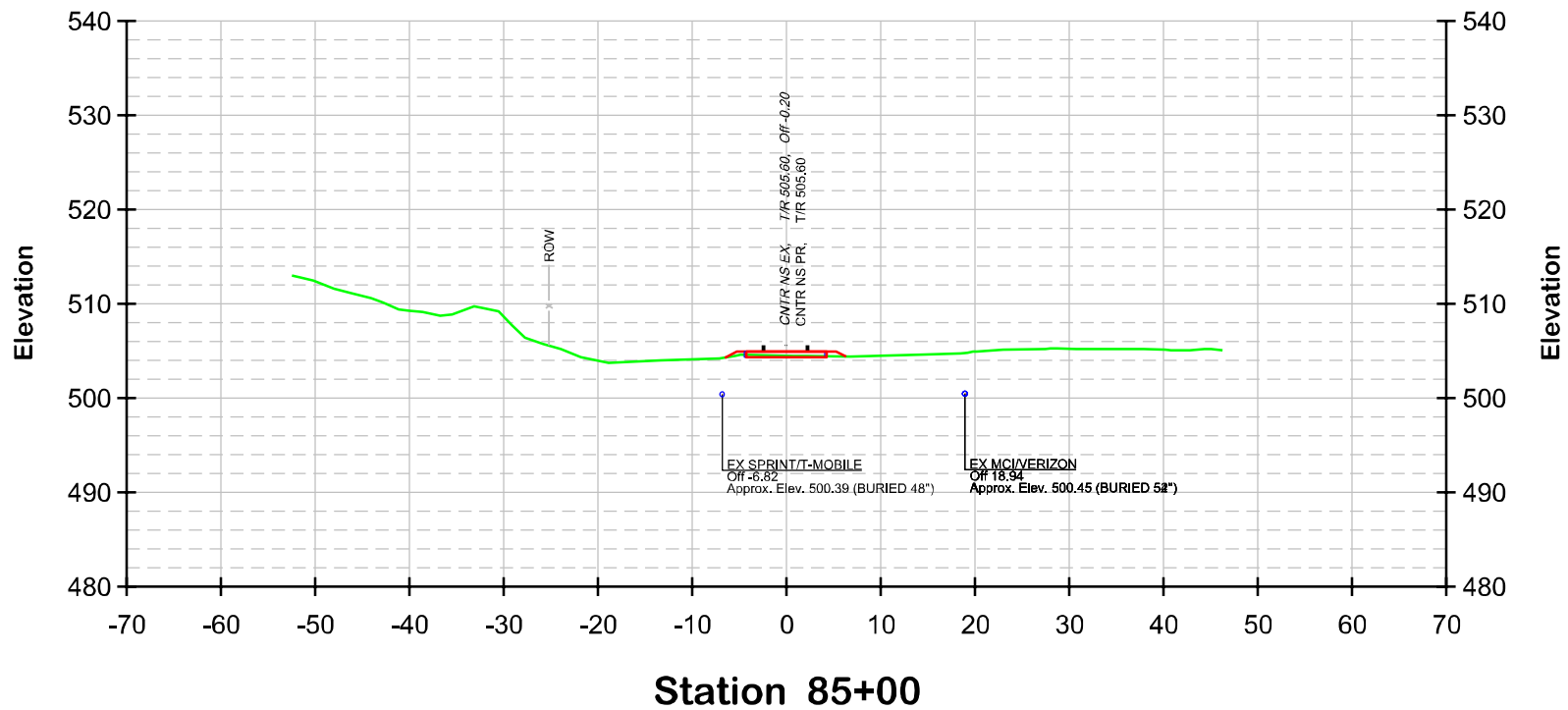
SCALE: 1" = 10'



OPERATING DIVISION
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MODEL NAME: Sheet
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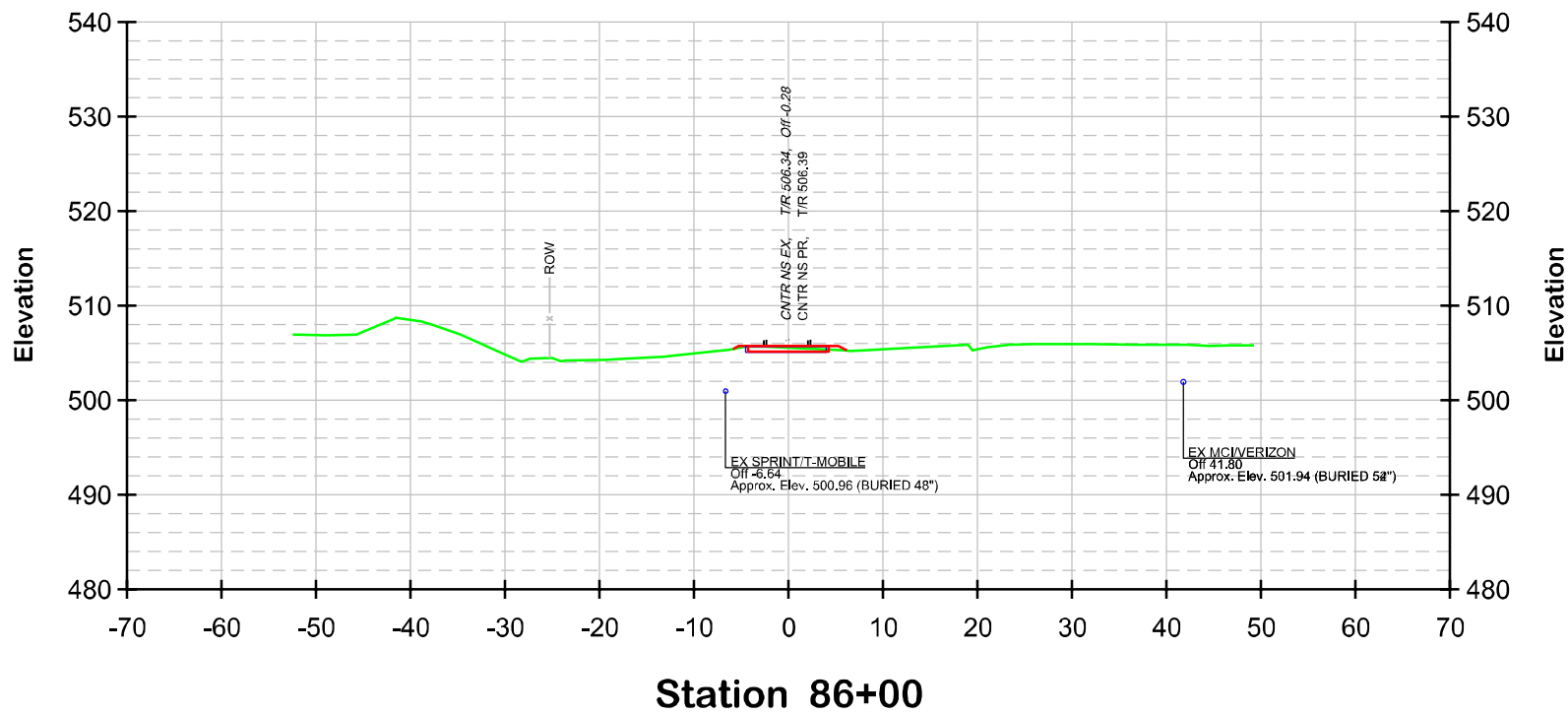
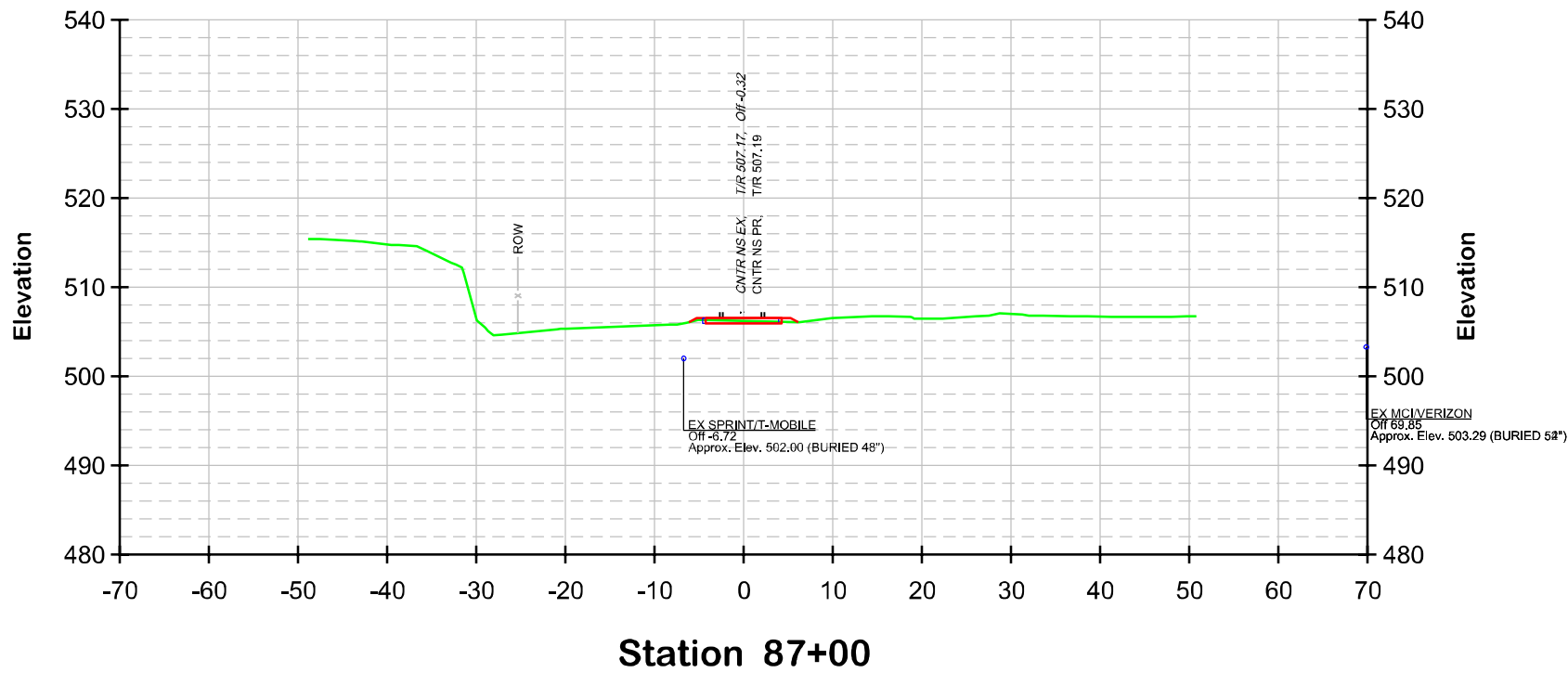
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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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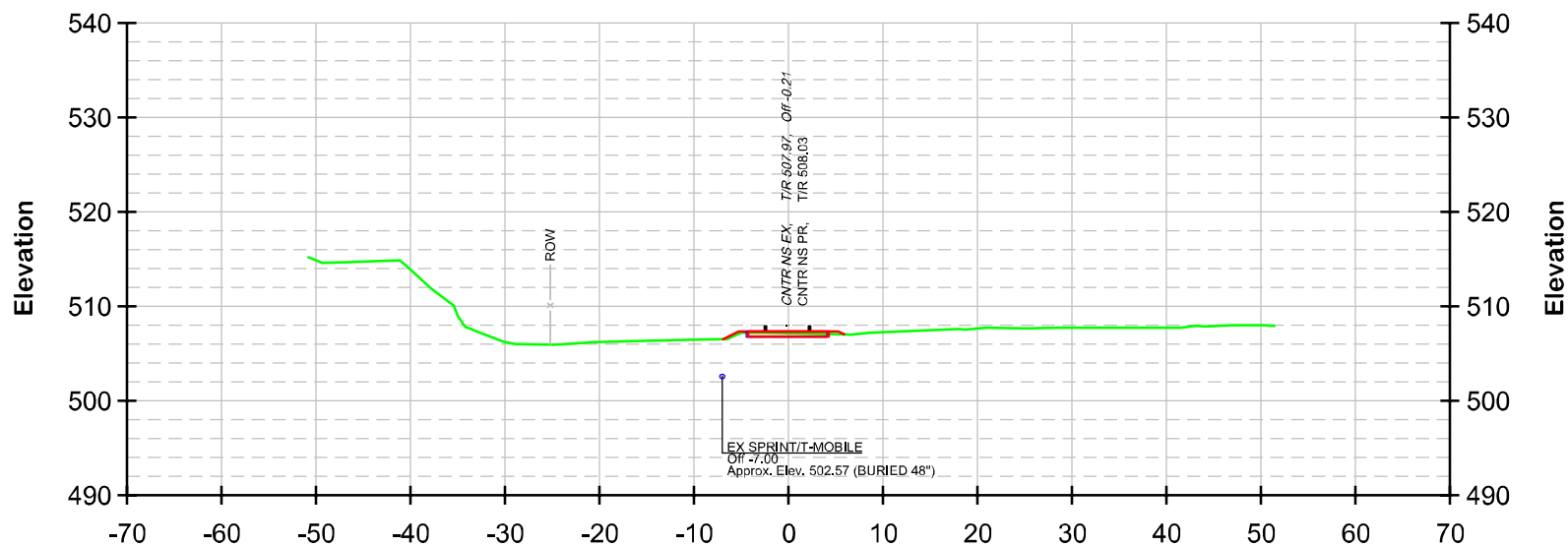
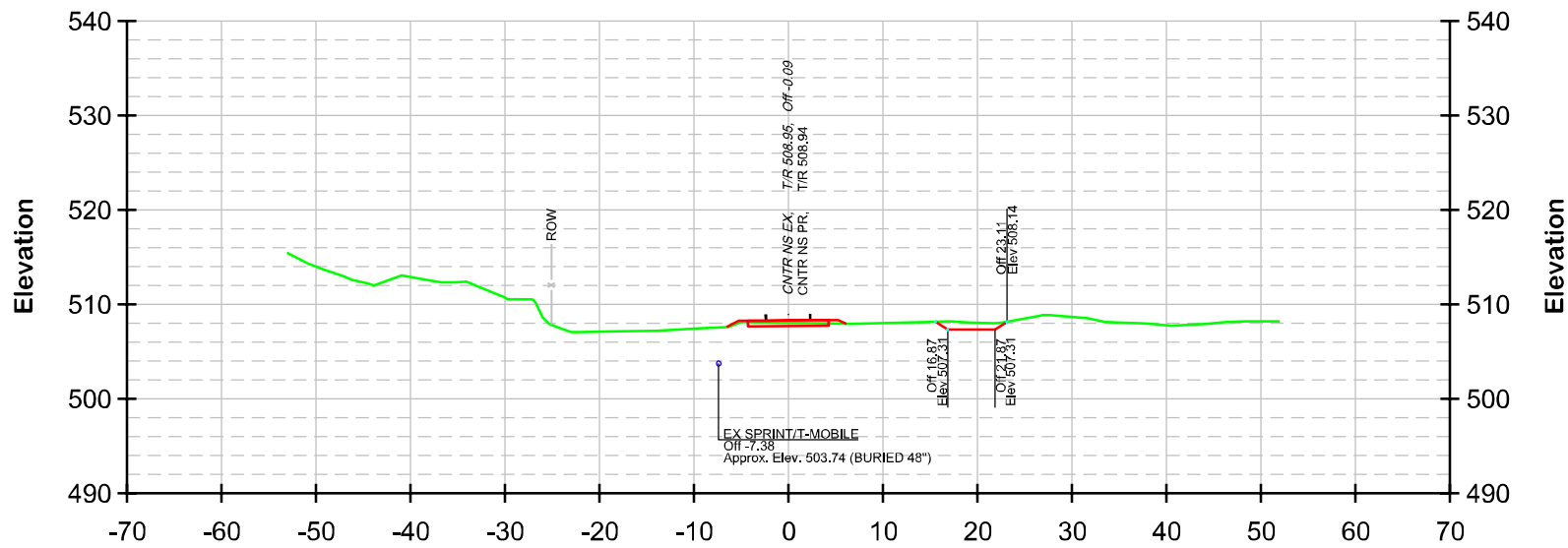
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NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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LEGEND

- EXISTING SURFACE
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SCALE: 1" = 10'

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DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

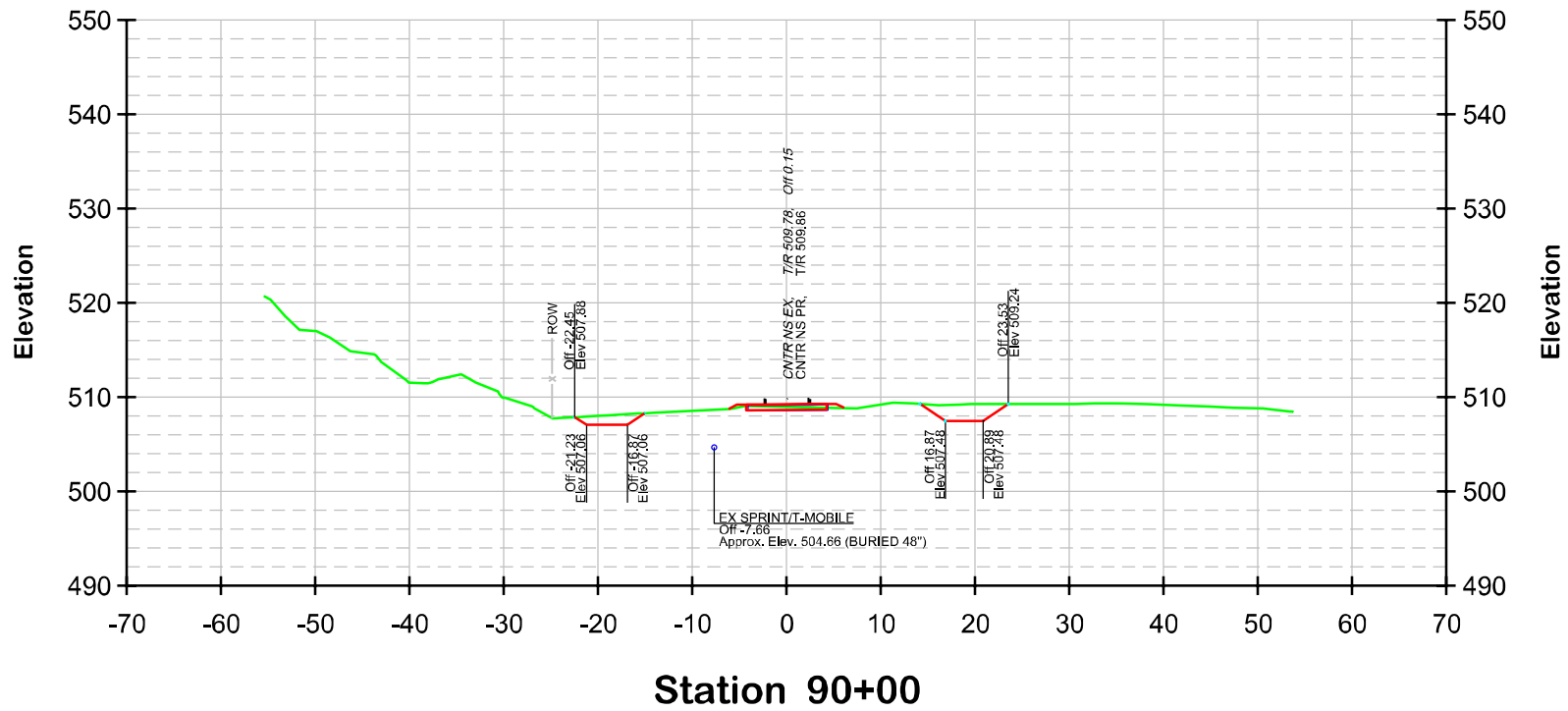
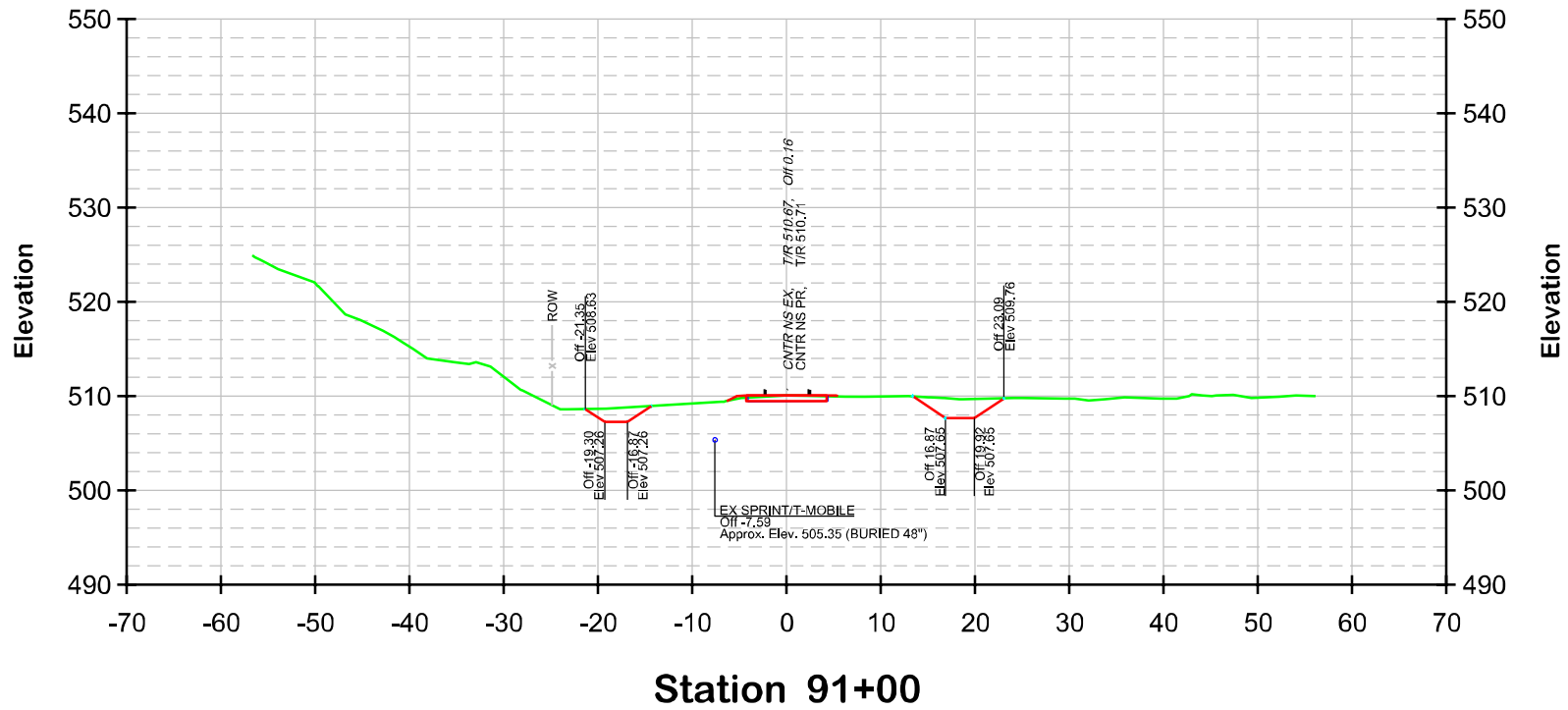
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NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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CHECK	NR	DATE 05-24-2024	TB-2022-11
CADD FILE: ...NS.Worcester.L1585.dgn			SHEET 18 OF 28
LAST SAVED: 5/17/2024			



- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK TO BE REMOVED
 - EXISTING TRACK
 - PROPOSED TRACKWORK



SCALE: 1" = 10'

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DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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LOCATION: G&W PW, GARDNER BRANCH SUBDIV

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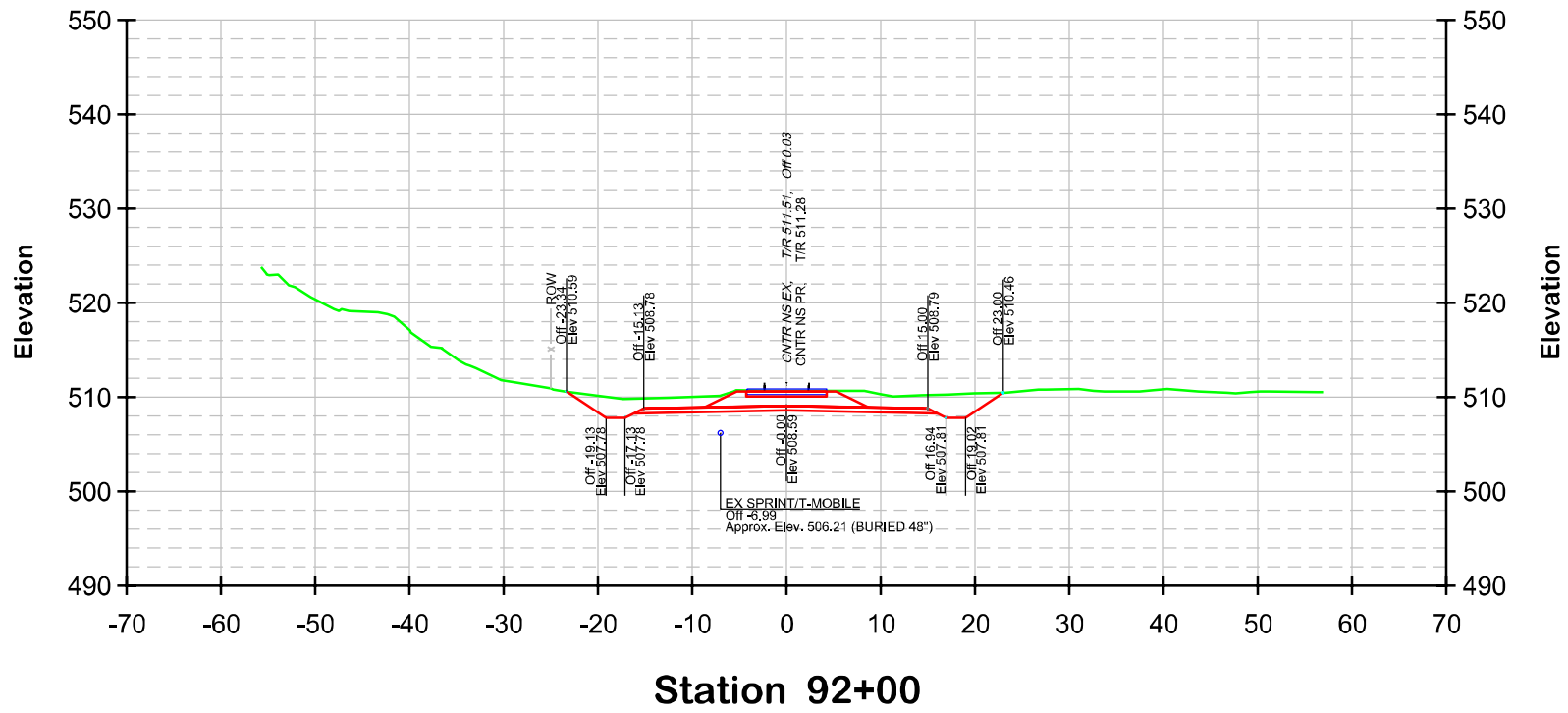
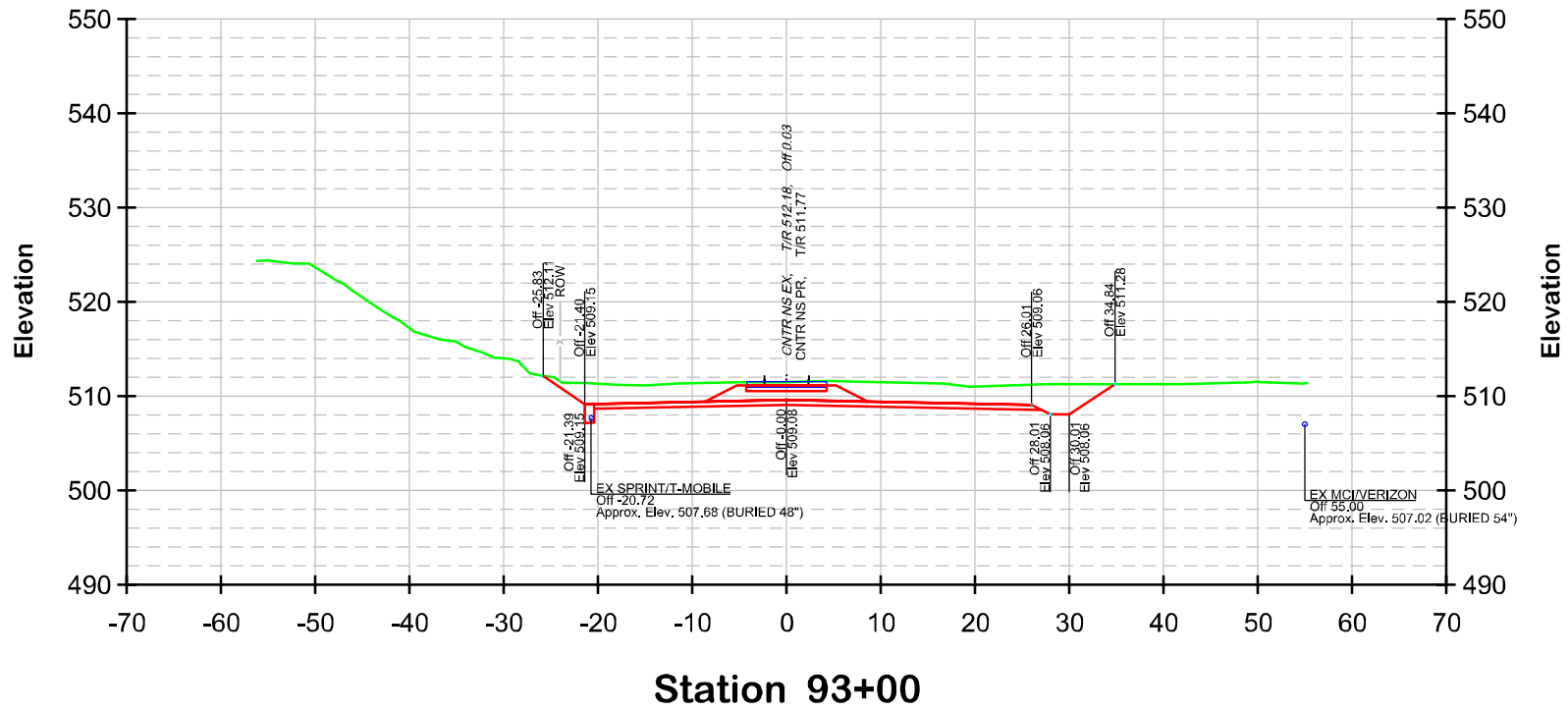
DESIGN: DD, FILE No. D3120, MILE POST: MP 0.6-2.0

DRAWN: HM, FILE No. TRK114427, DRAWING NUMBER: TB-2022-11

CHECK: NR, DATE: 05-24-2024

CADD FILE: ...NS.Worcester.L1586.dgn, SHEET 19 OF 28

LAST SAVED: 5/17/2024



- LEGEND
- EXISTING SURFACE
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SCALE: 1" = 10'

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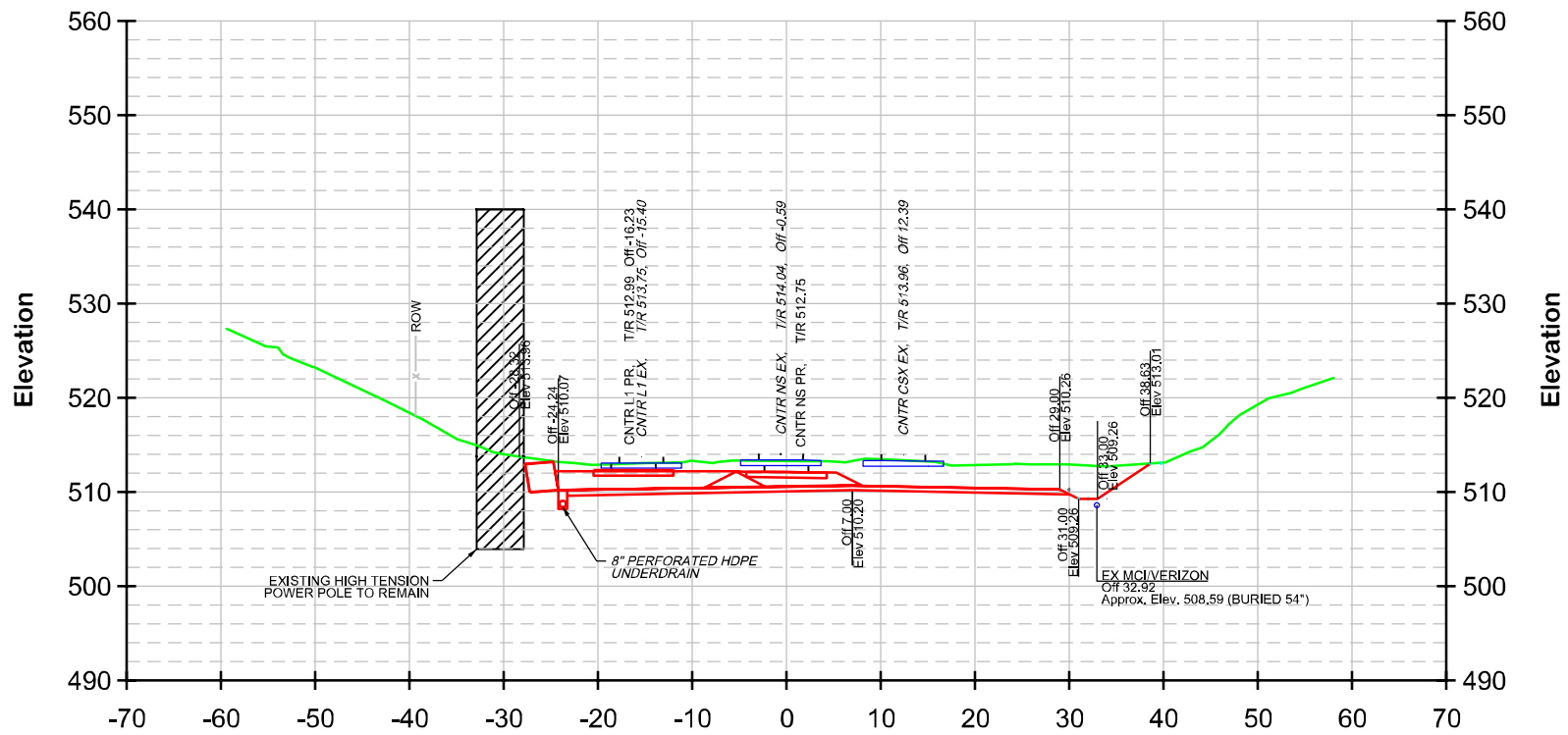
NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

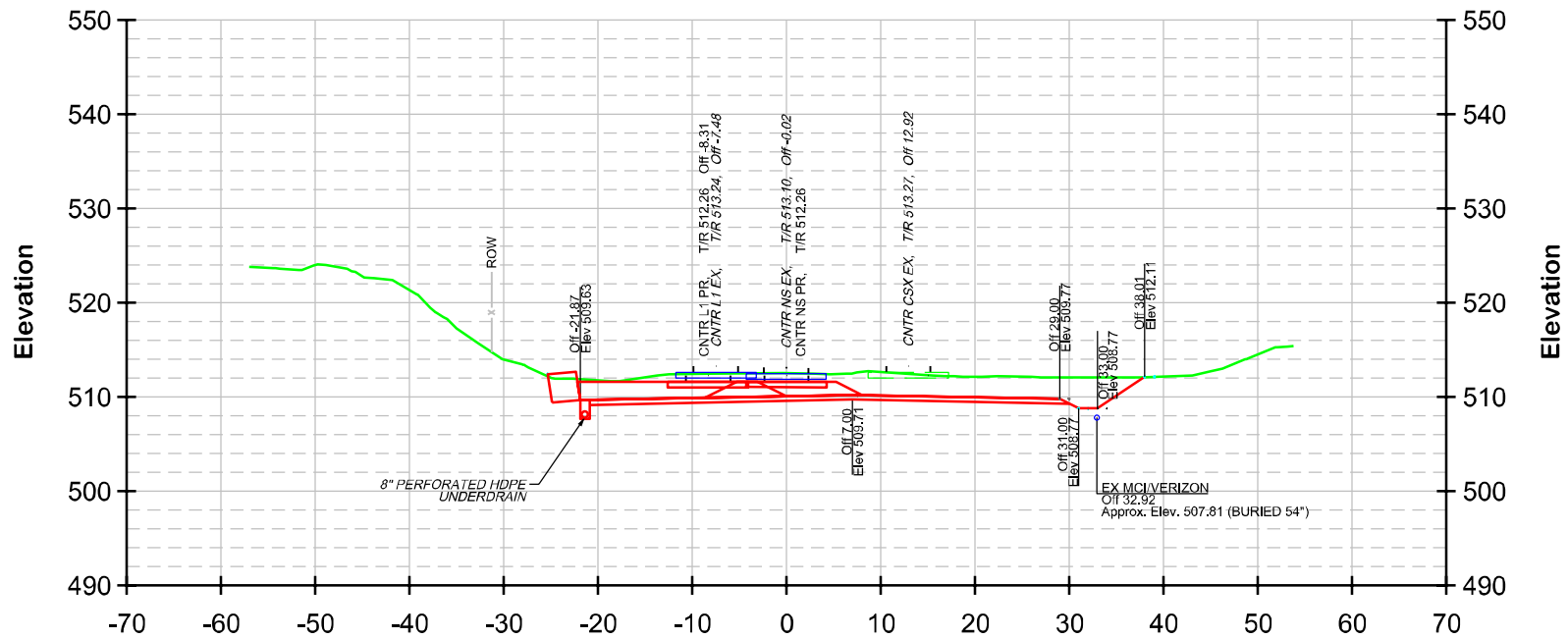
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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DRAWING NUMBER	TB-2022-11
DATE	05-24-2024
CADD FILE	...NS.Worcester.L1587.dgn
LAST SAVED	5/17/2024
SHEET	20 OF 28



Station 95+00



Station 94+00

LEGEND

- EXISTING SURFACE
- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK



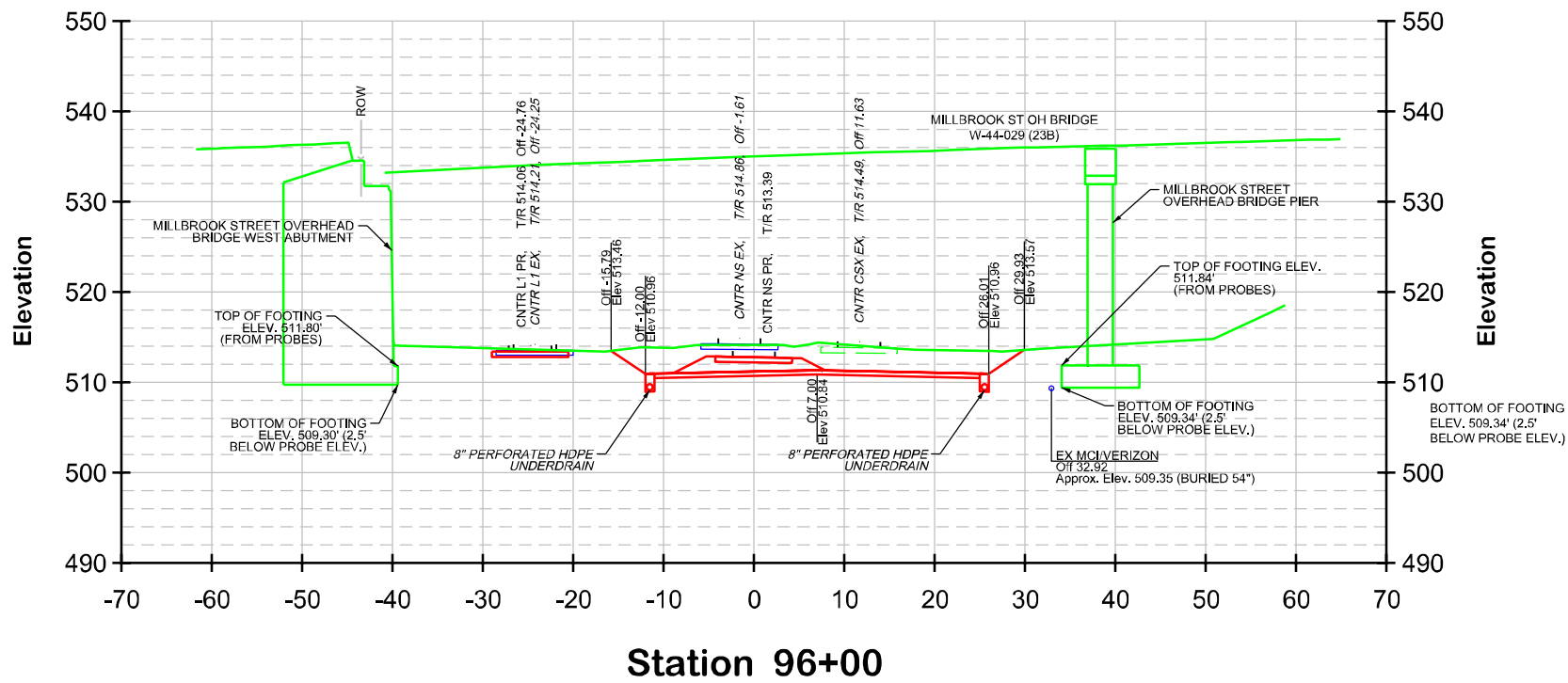
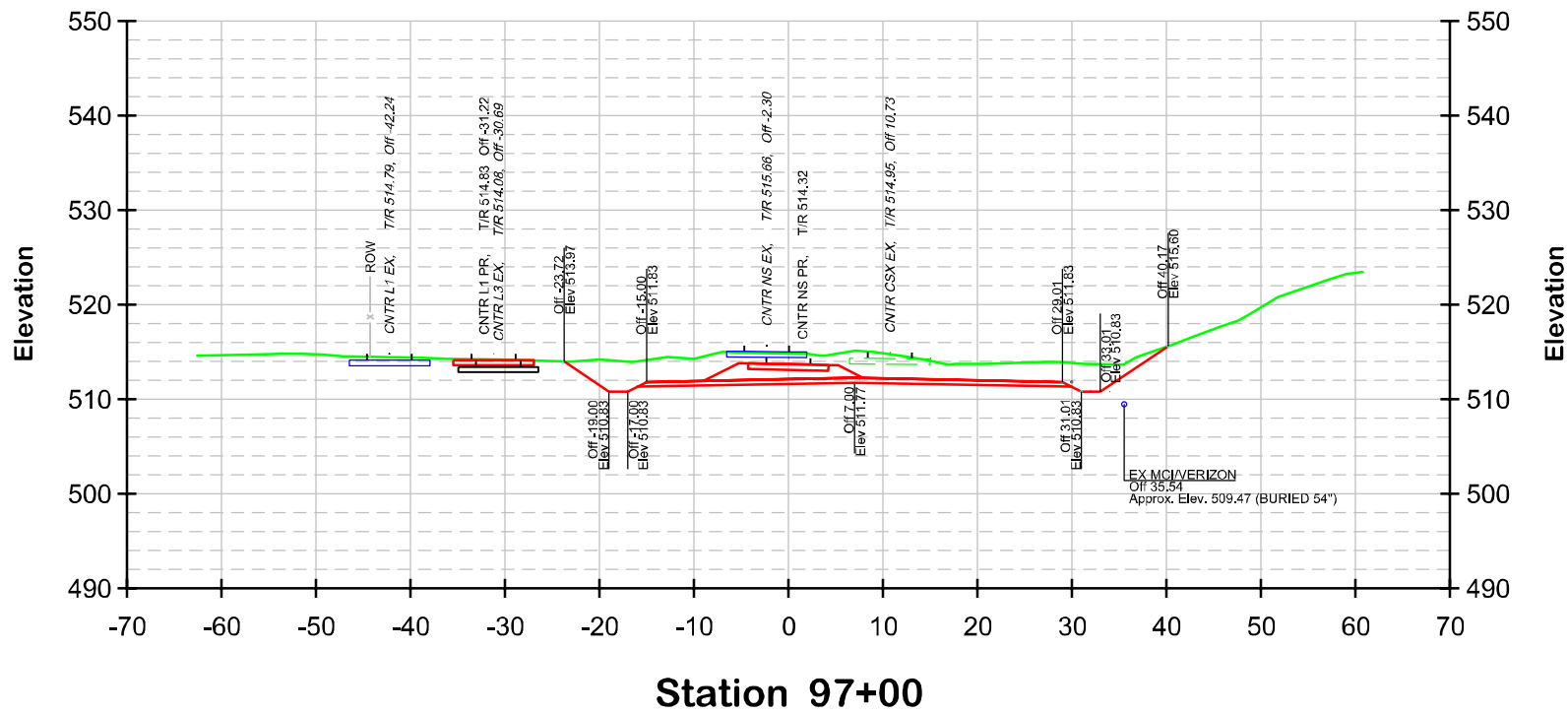
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NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

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LEGEND

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- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK



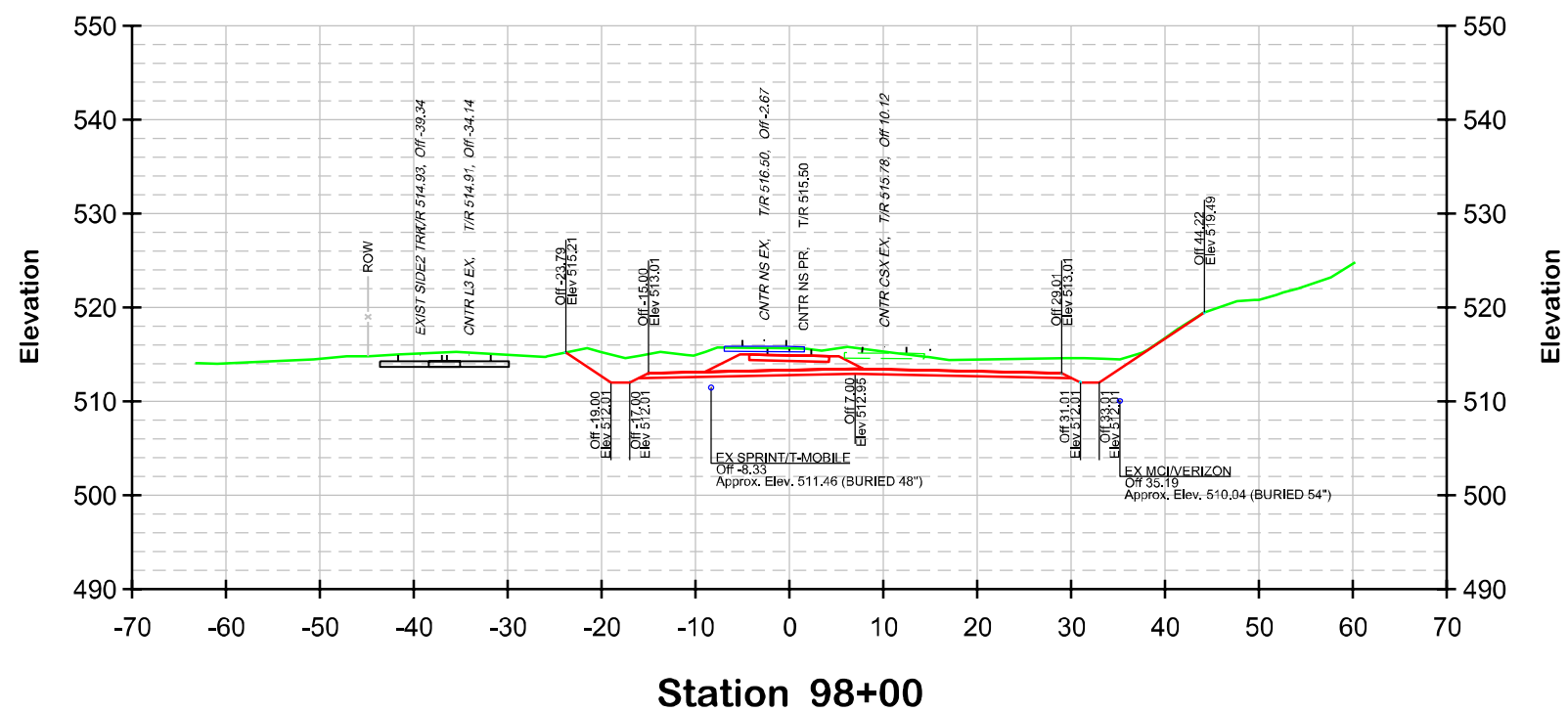
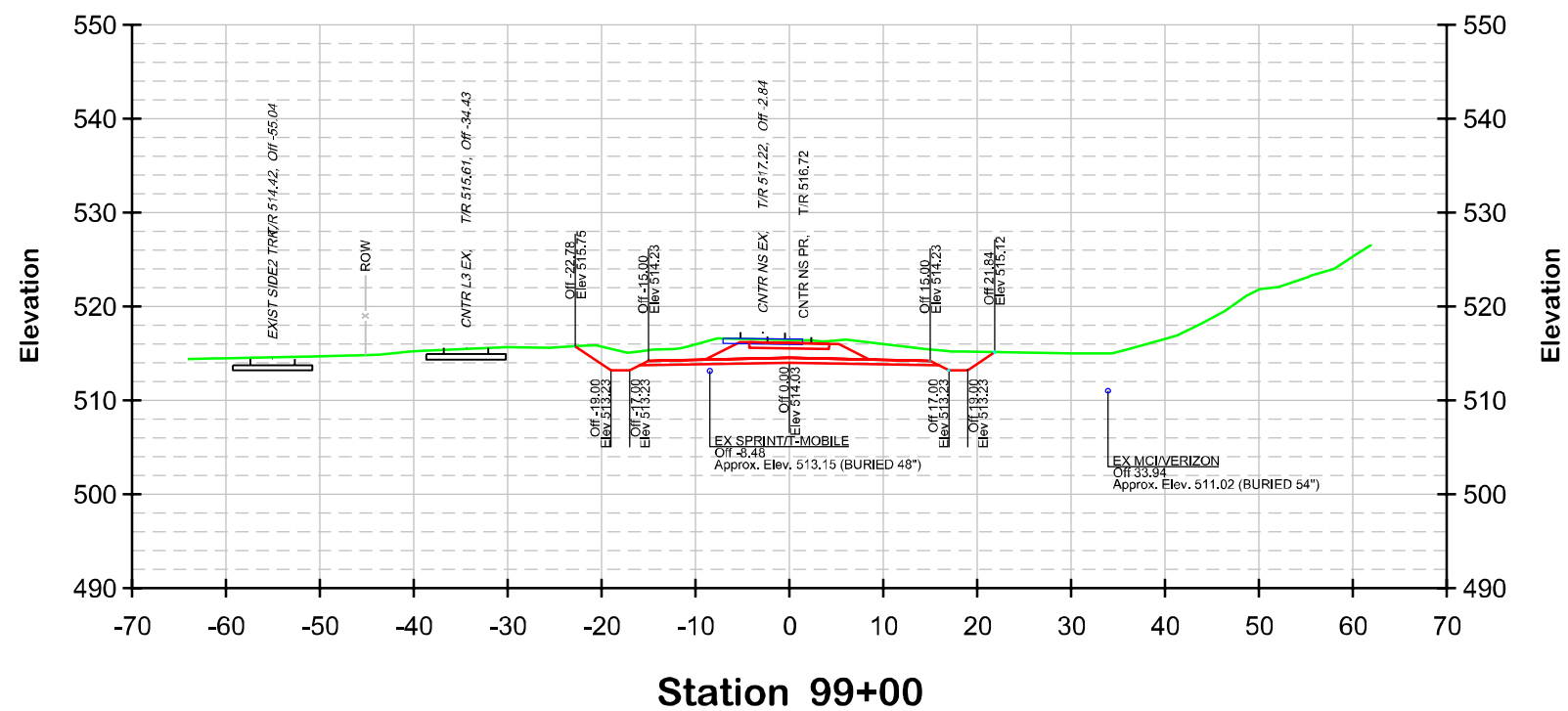
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NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

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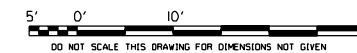


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- EXISTING SURFACE
 EXISTING TRACK TO BE REMOVED
 EXISTING TRACK
 PROPOSED TRACKWORK



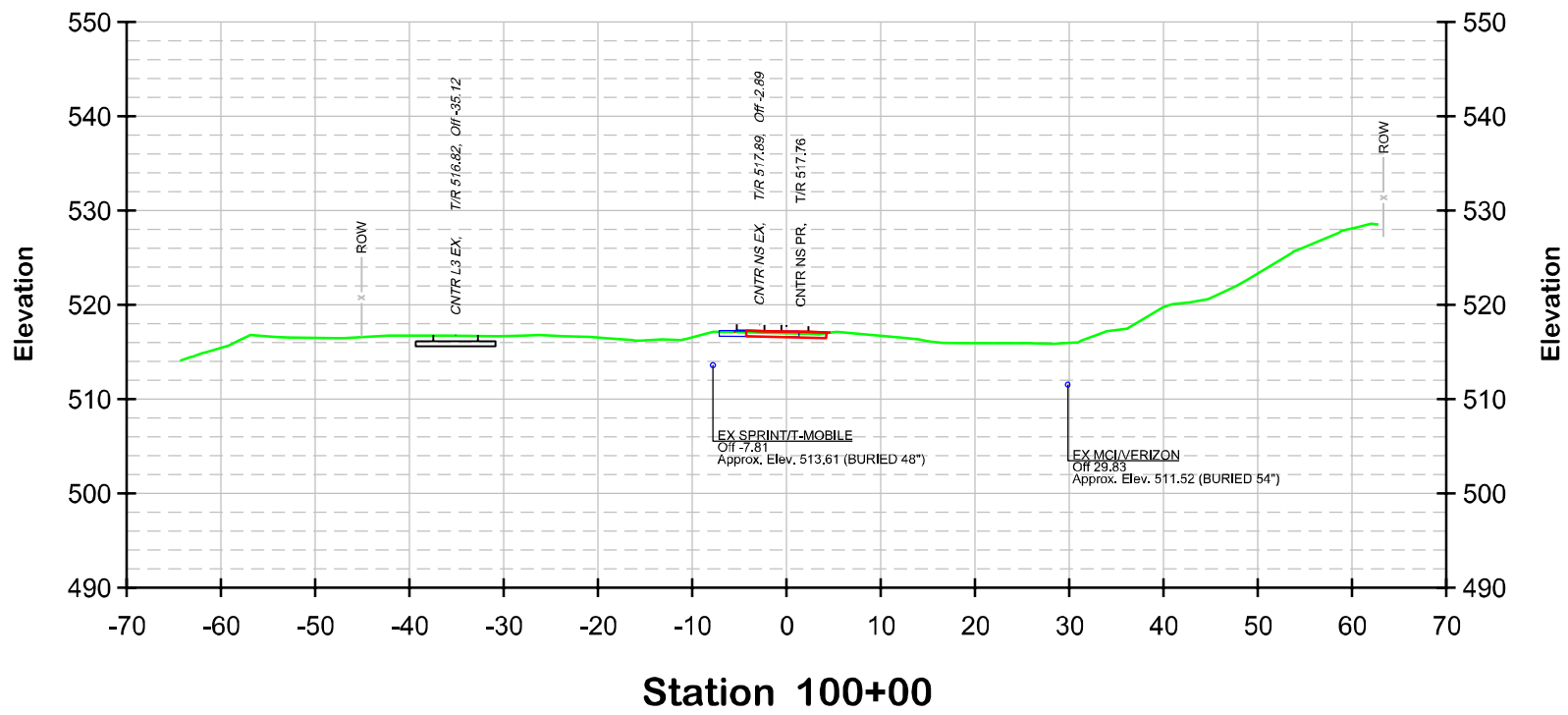
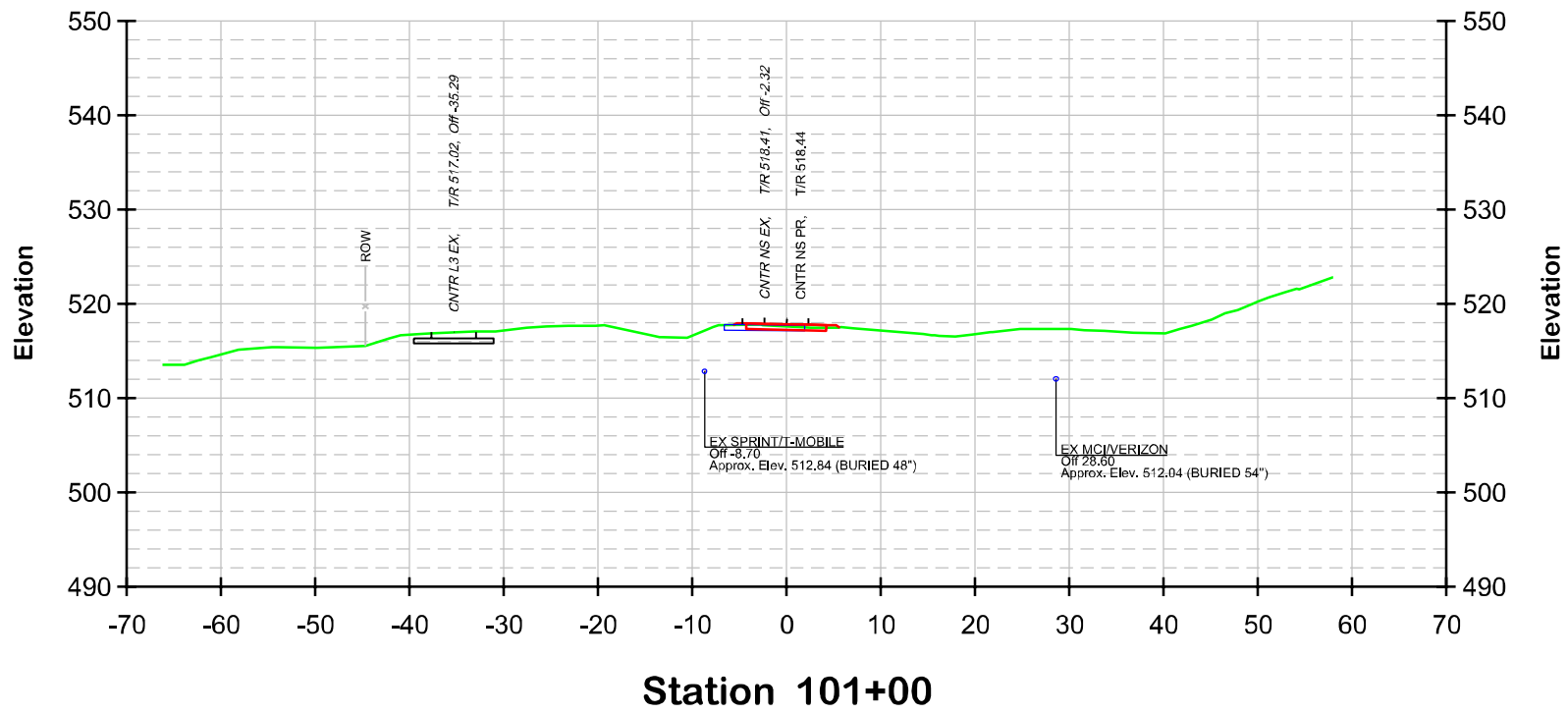
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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA DA

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

[illegible]



LEGEND

- EXISTING SURFACE
- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK



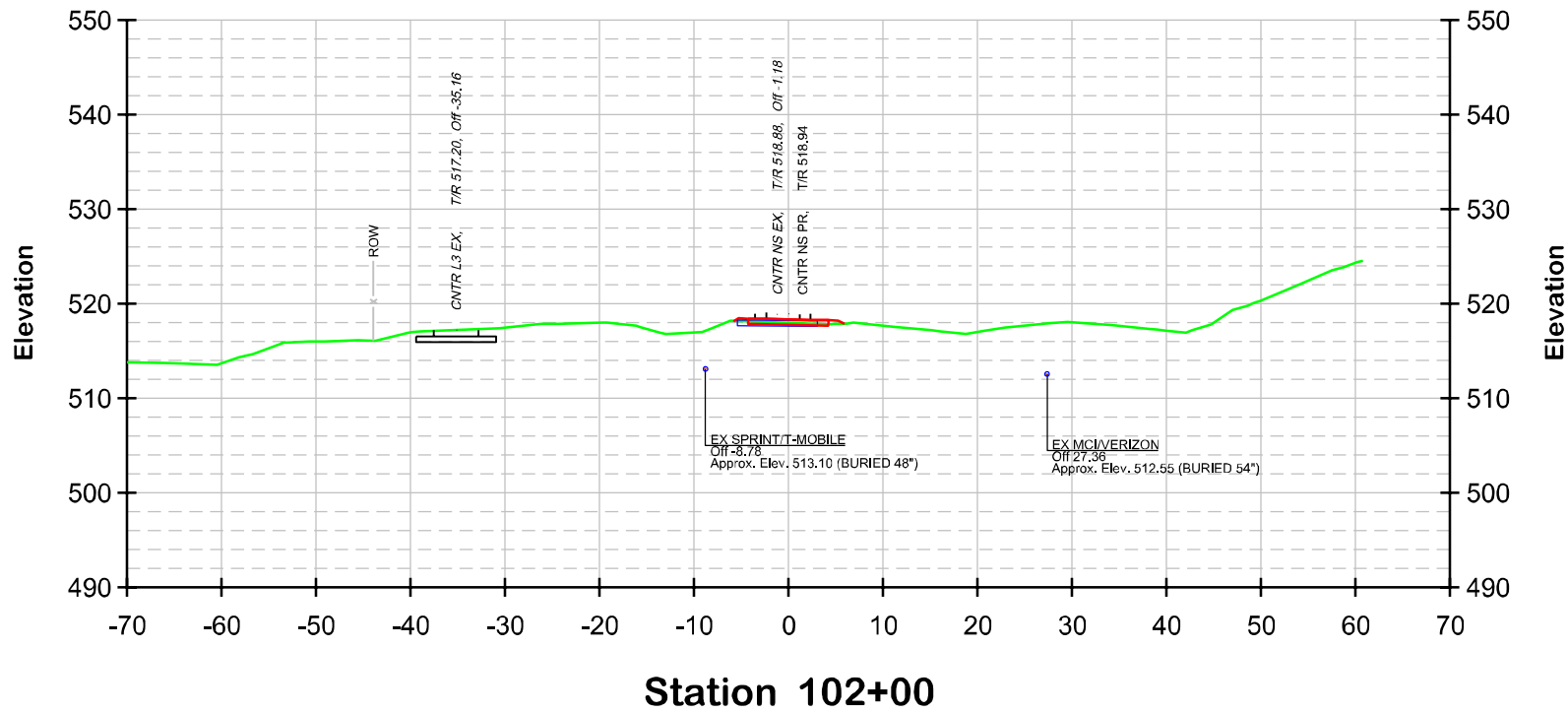
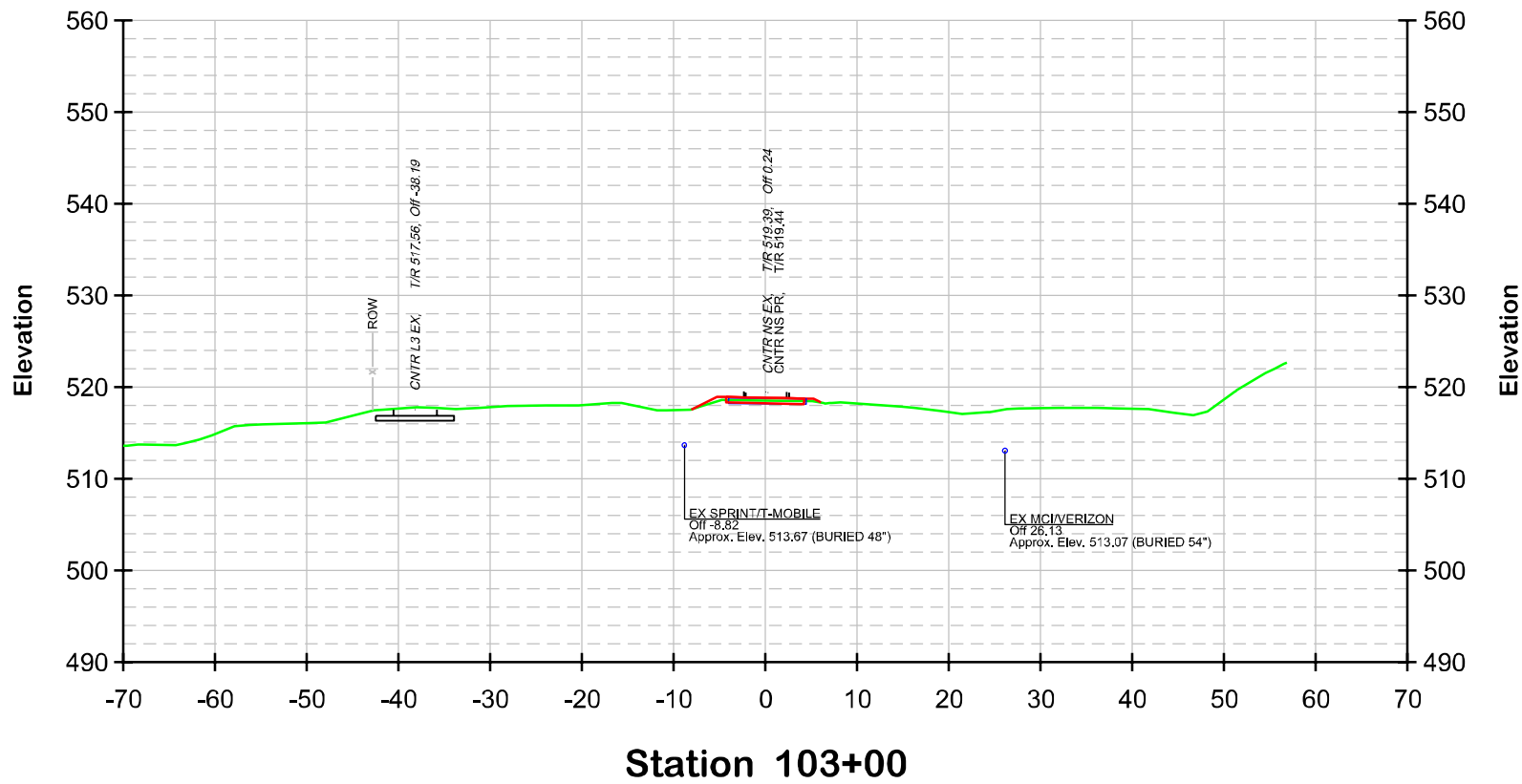
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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

MODEL NAME: Sheet
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CHECK	NR	DATE 05-24-2024	TB-2022-11
CADD FILE: ...NS.Worcester.L.XSL.dgn			SHEET 24 OF 28
LAST SAVED: 5/17/2024			



- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK TO BE REMOVED
 - EXISTING TRACK
 - PROPOSED TRACKWORK



SCALE: 1" = 10'

5' 0' 10' 30'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

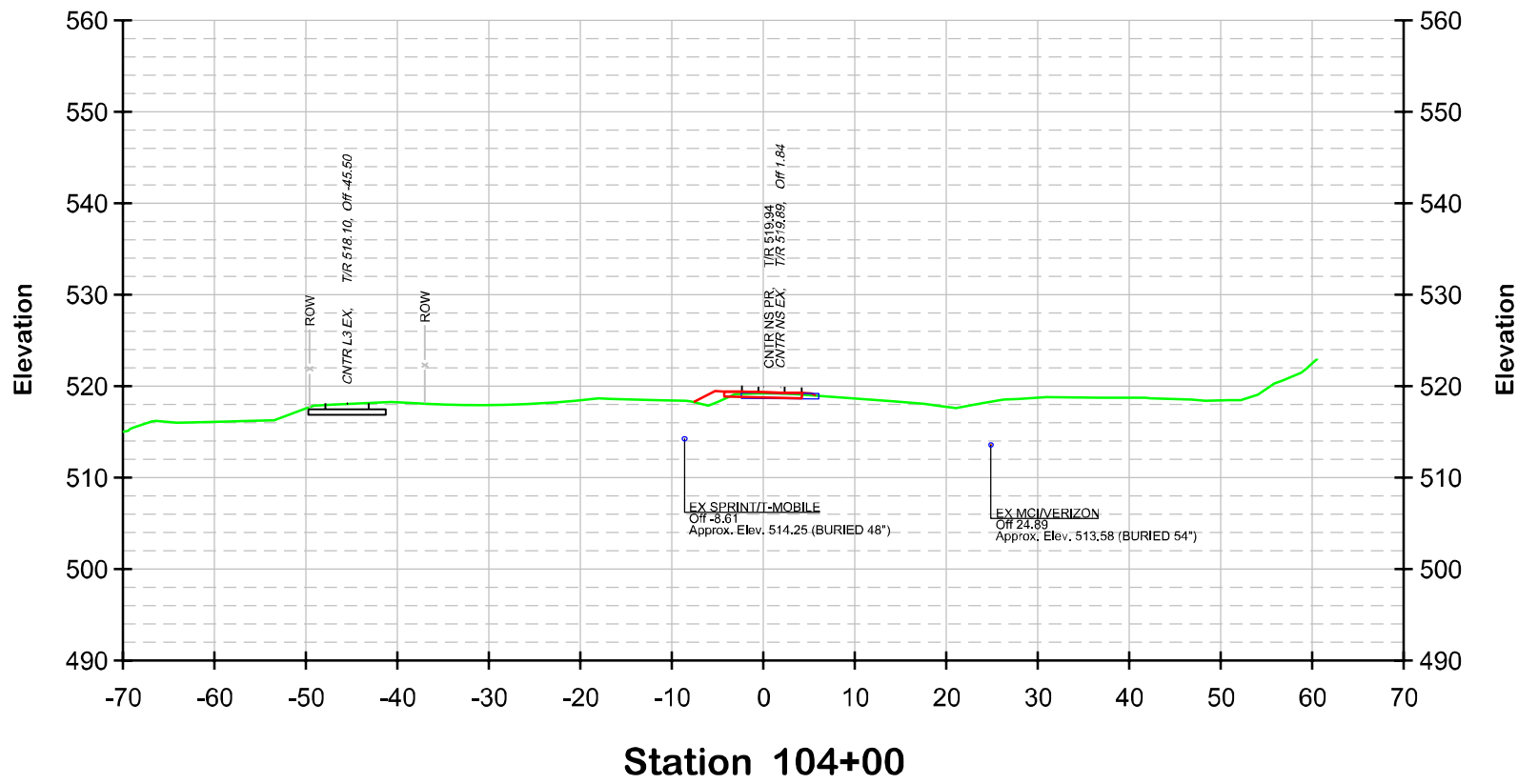
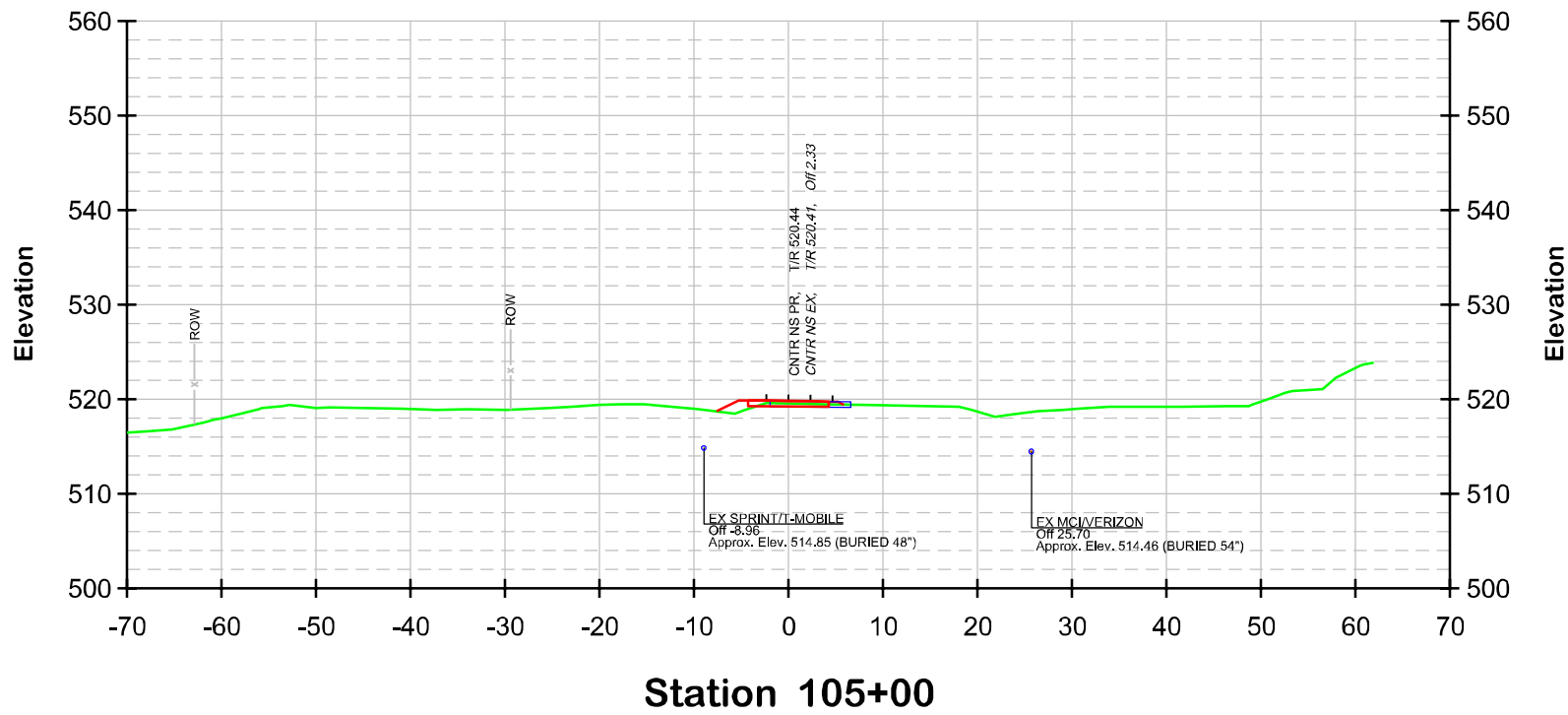
NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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LEGEND

- EXISTING SURFACE
- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK



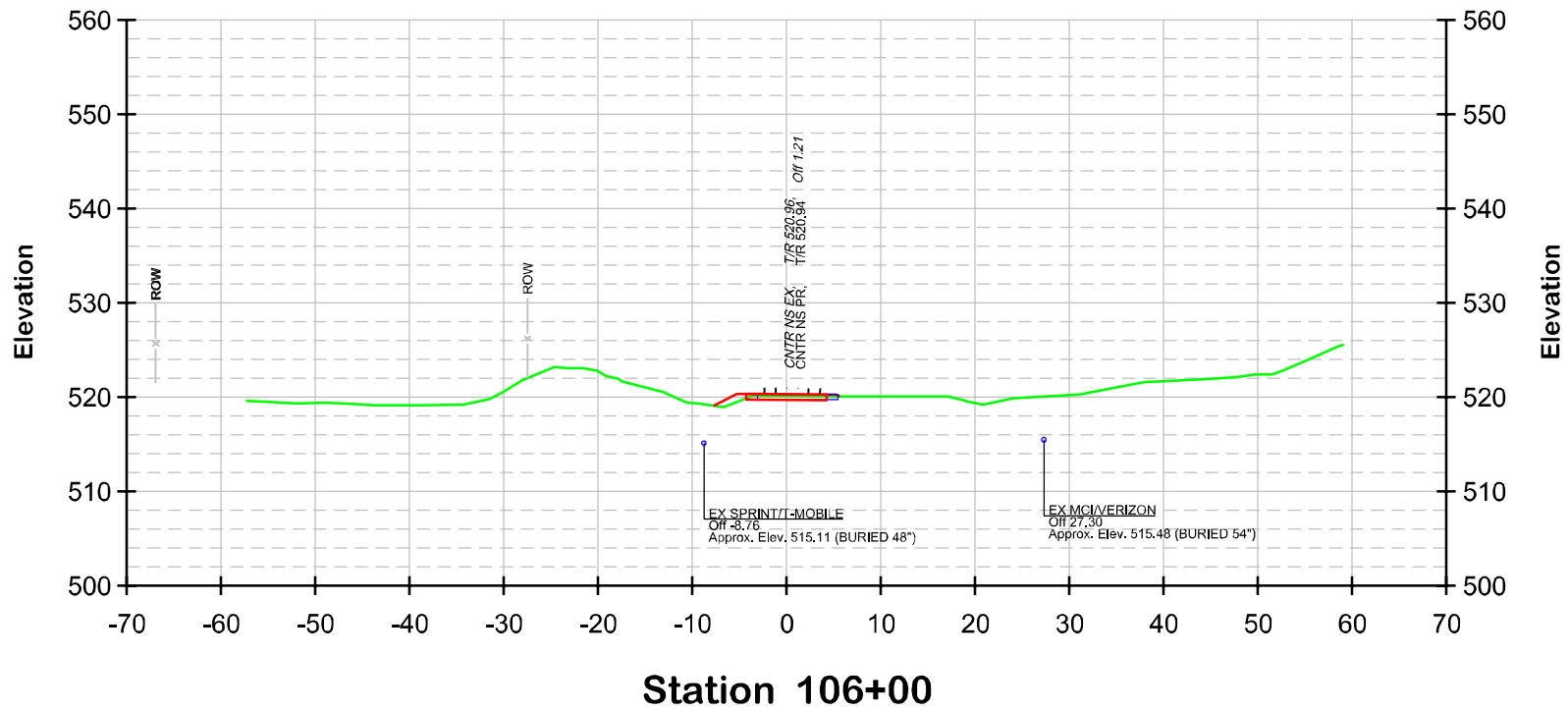
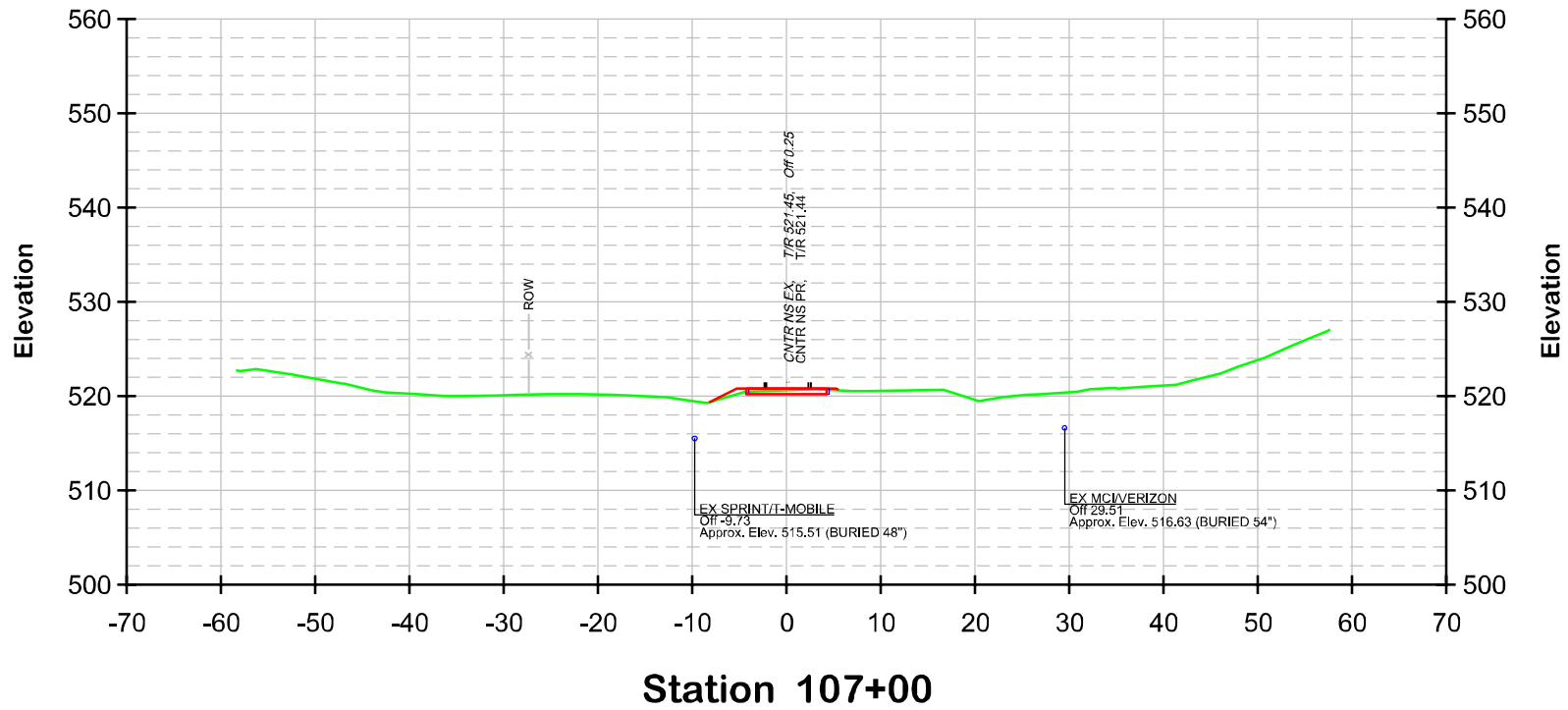
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NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

MODEL NAME: Sheet
DATE PRINTED: 7/18/2024

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SHEET			26 OF 28



- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK TO BE REMOVED
 - EXISTING TRACK
 - PROPOSED TRACKWORK



SCALE: 1" = 10'

5' 0' 10' 30'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

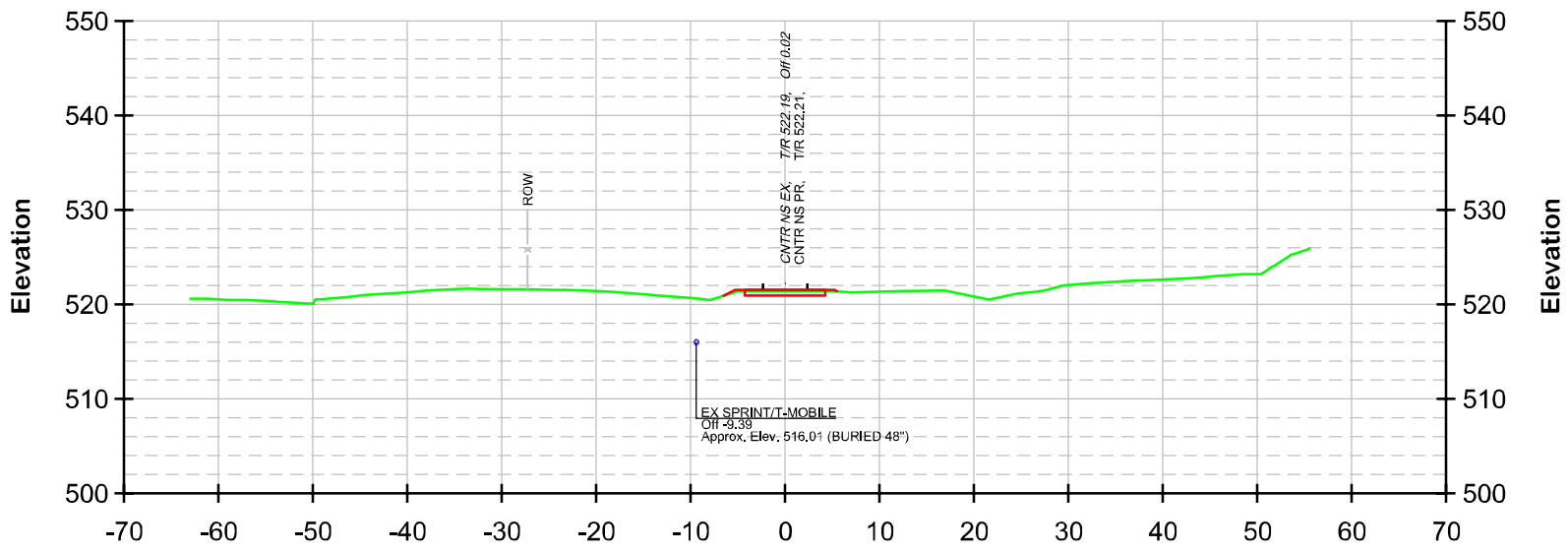
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NORFOLK SOUTHERN RAILWAY COMPANY

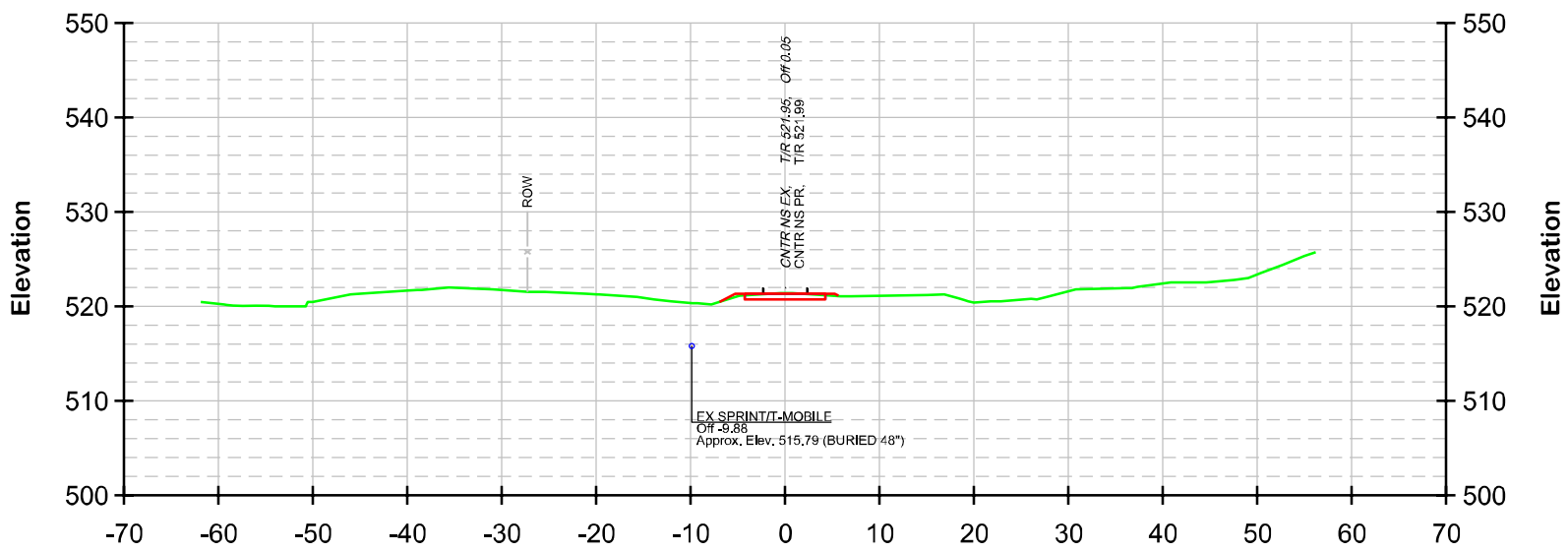
OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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LAST SAVED: 5/17/2024			



Station 108+34



Station 108+00

LEGEND

- EXISTING SURFACE
- EXISTING TRACK TO BE REMOVED
- EXISTING TRACK
- PROPOSED TRACKWORK



SCALE: 1" = 10'

5' 0' 10' 30'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

NS NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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LAST SAVED: 5/17/2024			



G&W PW, GARDNER BRANCH SUBDIV
WORCESTER, MA CLEARANCE IMPROVEMENT PROJECT
GOLDSBERRY STREET AND LINCOLN STREET TUNNELS - 100% DESIGN

CONSTRUCTION SITE LOCATION MAP



PROJECT LOCATION CROSSOVER

NOTES:

- NOTE 1: -THE WORK FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION DATED JANUARY 2022 AND ANY SPECIAL PROVISIONS PROVIDED HEREIN.
- THE CONTRACTOR WILL ARRANGE A FLAGMAN WITH G&W. THE CONTRACTOR WILL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH NS AND G&W FLAGMAN.
- THE CONTRACTOR SHALL SUBMIT TO NS A PROPOSED CONSTRUCTION SCHEDULE PRIOR TO BEGINNING WORK.
- EXISTING SPEED IS 10MPH, DESIGN SPEED IS 10MPH. SPEED DURING CONSTRUCTION TO BE REDUCED AS SHOWN IN GEOMETRY TABLES ON SHEETS.
- NOTE 2: -THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT NS DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR SHOULD VERIFY LOCATIONS WITH THE UTILITY COMPANIES NOT LESS THAN 48 HOURS BEFORE STARTING EXCAVATION ACTIVITIES.
- ALL CONSTRUCTION WORK WILL BE PERFORMED IN SUCH A MANNER AS TO CONTROL EROSION AND PREVENT SEDIMENTATION FROM LEAVING THE SITE. EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.
- RAILROAD RIGHT OF WAY LINES, IF SHOWN, WERE OBTAINED FROM VALUATION MAPS. ALL RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATION PURPOSES ONLY AS THEY HAVE NOT BEEN VERIFIED IN THE FIELD.
- NOTE 3: -THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY LOCAL CONSTRUCTION PERMITS THAT MAY BE REQUIRED FOR CONSTRUCTION OF THIS PROJECT.
- NOTE 4: -THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD LAYOUT AND CONSTRUCTION STAKING.
- NOTE 5: -THE CONTRACTOR SHALL OBTAIN ANY TEMPORARY CONSTRUCTION ENTRANCE AND/OR DRIVEWAY PERMITS FROM THE APPROPRIATE GOVERNING AGENCY.
- ON SITE AND GENERATED CONSTRUCTION DEBRIS IS TO BE DISPOSED OF AS NON-REGULATED SOLID WASTE IN COMPLIANCE WITHIN LOCAL REGULATIONS, IF SUSPECTED ENVIRONMENTAL PROBLEMS ARE ENCOUNTERED, CONTACT THE NS ENVIRONMENTAL PROTECTION DEPARTMENT TO ASSIST IN THEIR PROPER HANDLING AND REMOVAL.
- NOTE 6: -THE CONTRACTOR'S BID PRICE FOR CROSS TIE REMOVAL, IF REQUIRED, SHALL INCLUDE TRANSPORTATION AND LEGAL DISPOSAL.
- SELECTIVE TIE & TIMBER RENEWAL WILL BE REQUIRED IN AREAS TO BE UNDERCUT AND TRACK SHIFT, INCLUDING THE RELOCATED TURNOUT. TIES TO BE MARKED BY P&W DIRECTOR OF ENGINEERING OR HIS DESIGNEE.
- THE PROJECT COORDINATE SYSTEM IS: UNITED STATES/STATE PLANE US SURVEY FEET ZONE MASSACHUSETTS MAINLAND 2001 HORIZONTAL DATUM: NAD83 (2011) (EPOCH:2010.0000) VERTICAL DATUM: NAVD88 (G12AUS)

TABLE OF CONTENTS

SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	COVER SHEET	11-24	DIRECT FIXATION PLANS SHEET
2	KEY PLAN	25	PROPOSED CONCRETE SLAB 1 OF 2
3	TYPICAL SECTIONS 1 OF 2	26	PROPOSED CONCRETE SLAB 2 OF 2
4	TYPICAL SECTIONS 2 OF 2	27	PROPOSED CONCRETE SLAB EXTENSION
5	CLEARANCE TEMPLATE	28-43	TRACK CROSS SECTIONS
6	TEMPORARY TURNOUT PLAN AND PROFILE SHEET 1 OF 1	44	FASTENER AND INSERT DETAILS 1 OF 2
7	MAIN TRACK 1 PLAN AND PROFILE SHEET 1 OF 3	45	FASTENER AND INSERT DETAILS 2 OF 2
8	MAIN TRACK 1 PLAN AND PROFILE SHEET 2 OF 3		
9	MAIN TRACK 1 PLAN AND PROFILE SHEET 3 OF 3		
10	GEOMETRY TABLE		





NORFOLK SOUTHERN RAILWAY COMPANY

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

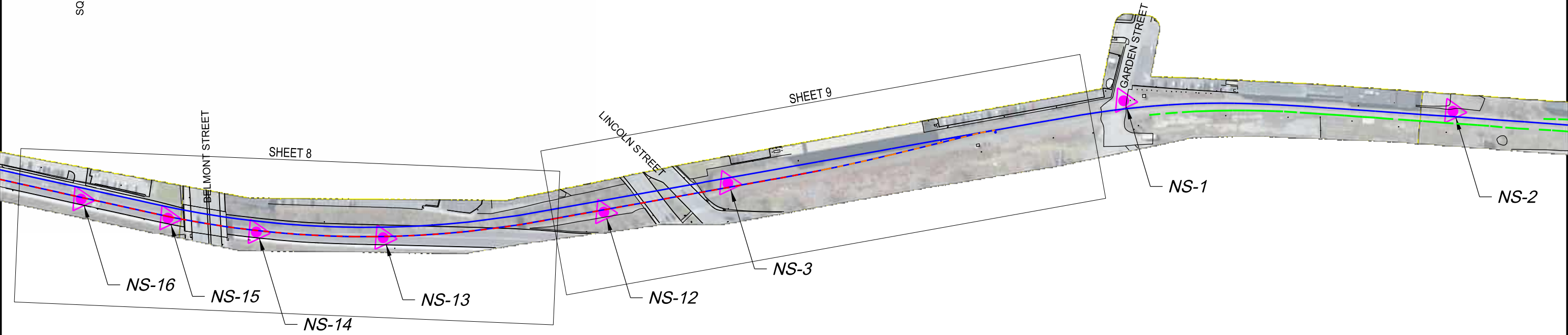
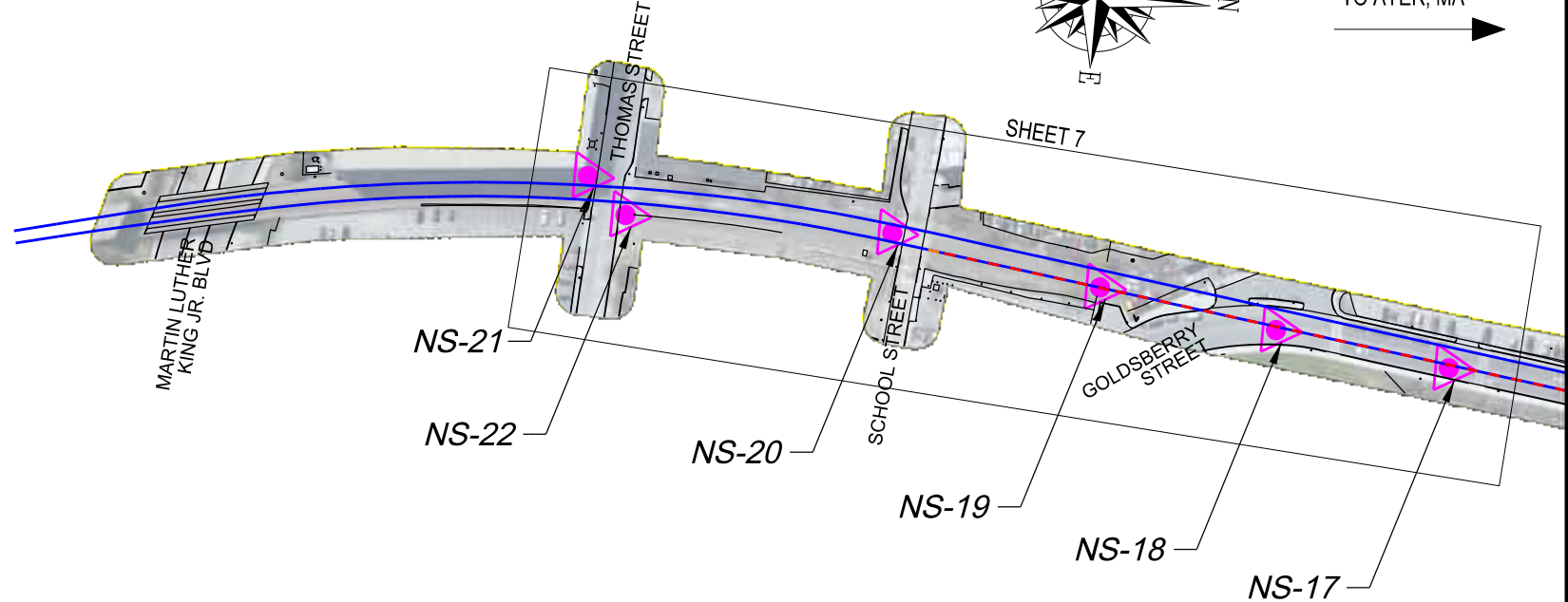
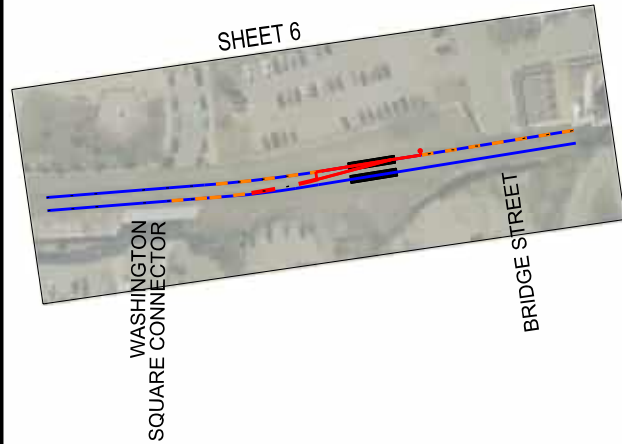
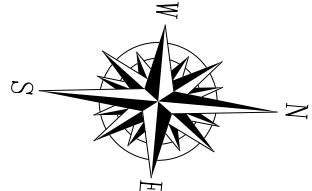
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DRAWING NUMBER			TB-2022-11
MILE POST			MP 0.6-2.0
SHEET			1 OF 45

MODEL NAME: #MODELNAME#
DATE PRINTED: #DATE#

CADD FILE: #FILE#
LAST SAVED: #LASTSAVEDATE#

TO WORCESTER, MA
←

TO AYER, MA
→



CONTROL POINTS ▲			
POINT NUMBER	NORTHING	EASTING	DESCRIPTION
NS-1	2925977.197	575457.274	
NS-2	2926647.764	575418.618	
NS-3	2925188.023	575696.835	
NS-12	2924941.355	575777.997	
NS-13	2924497.718	575870.165	
NS-14	2924239.135	575881.715	
NS-15	2924057.097	575869.732	
NS-16	2923877.210	575846.790	

CONTROL POINTS ▲			
POINT NUMBER	NORTHING	EASTING	DESCRIPTION
NS-17	2923680.512	575821.530	
NS-18	2923488.132	575796.722	
NS-19	2923291.656	575767.312	
NS-20	2923059.655	575728.047	
NS-21	2922721.844	575695.705	
NS-22	2922766.575	575734.553	

LEGEND

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EXISTING TRACK

PROPOSED TRACK

TRACK TO BE LINED/SHIFTED

TRACK TO BE REMOVED

SCALE: 1" = 200'



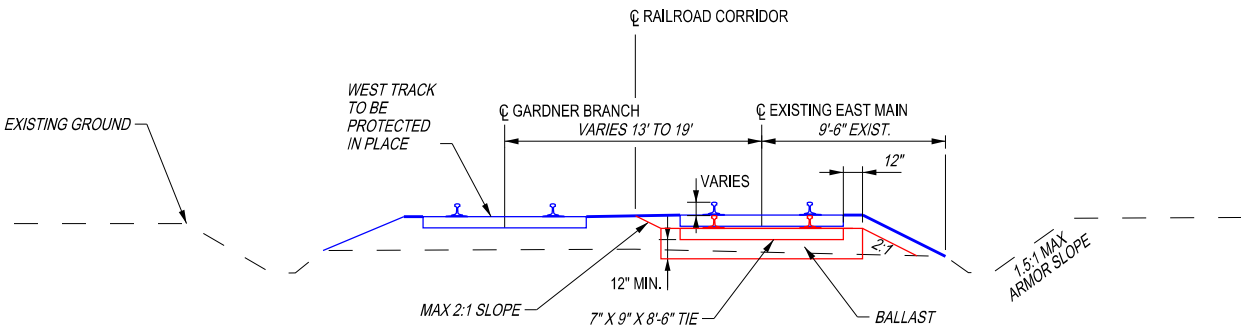
NS NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

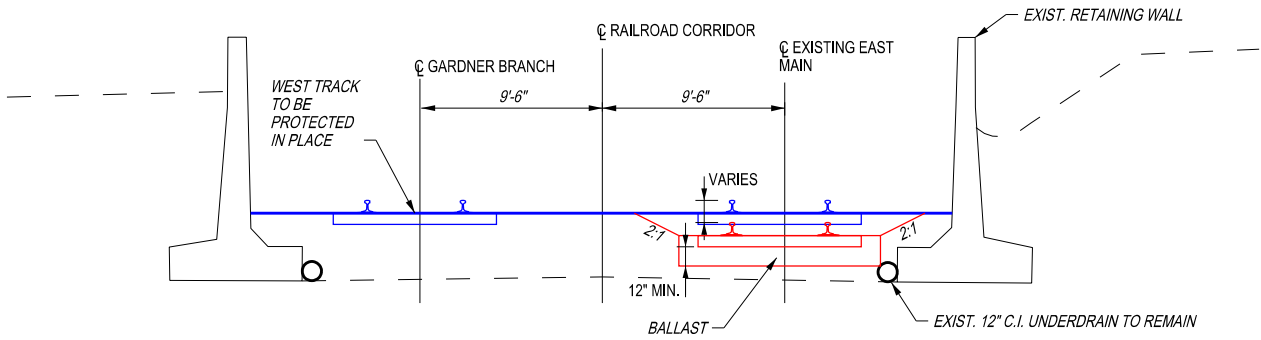
OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

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KEY PLAN		
DRN	DD	FILE No. D3120
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CHK	NB	DATE 02-09-2024
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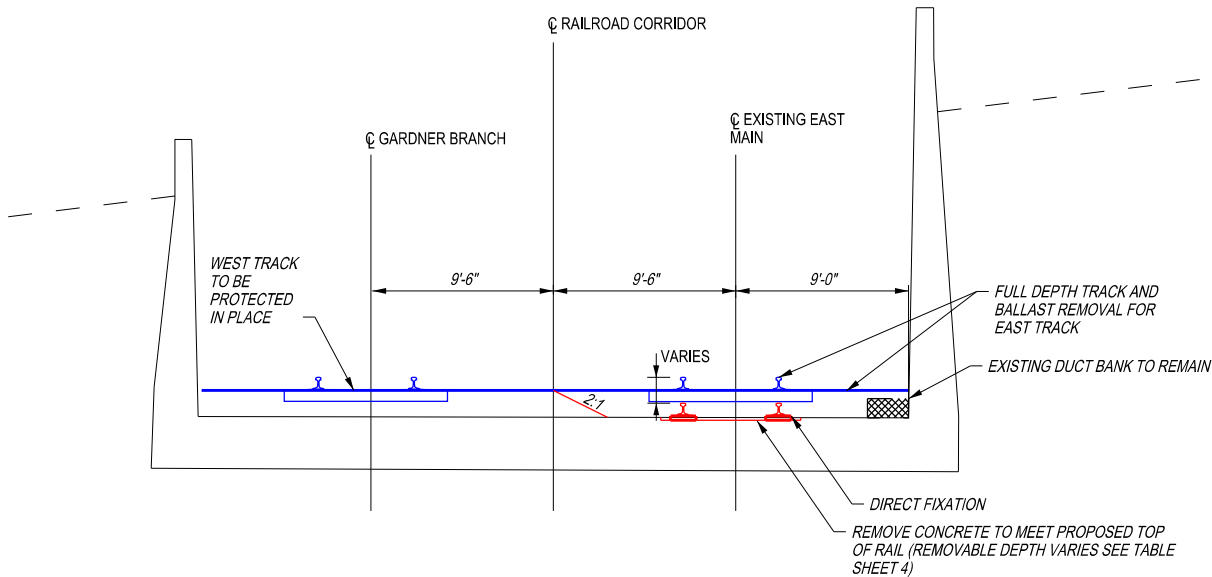
SHEET 2 OF 45



TYPICAL SECTION 1 - NORTH OF SCHOOL STREET
AND NORTH OF LINCOLN STREET TUNNEL
STA. 26+90.00 TO STA 28+00.00 (MAX LOWERING APPROX. 5")
AND STA 47+89.36 TO STA 50+00.00 (MAX LOWERING APPROX. 12")

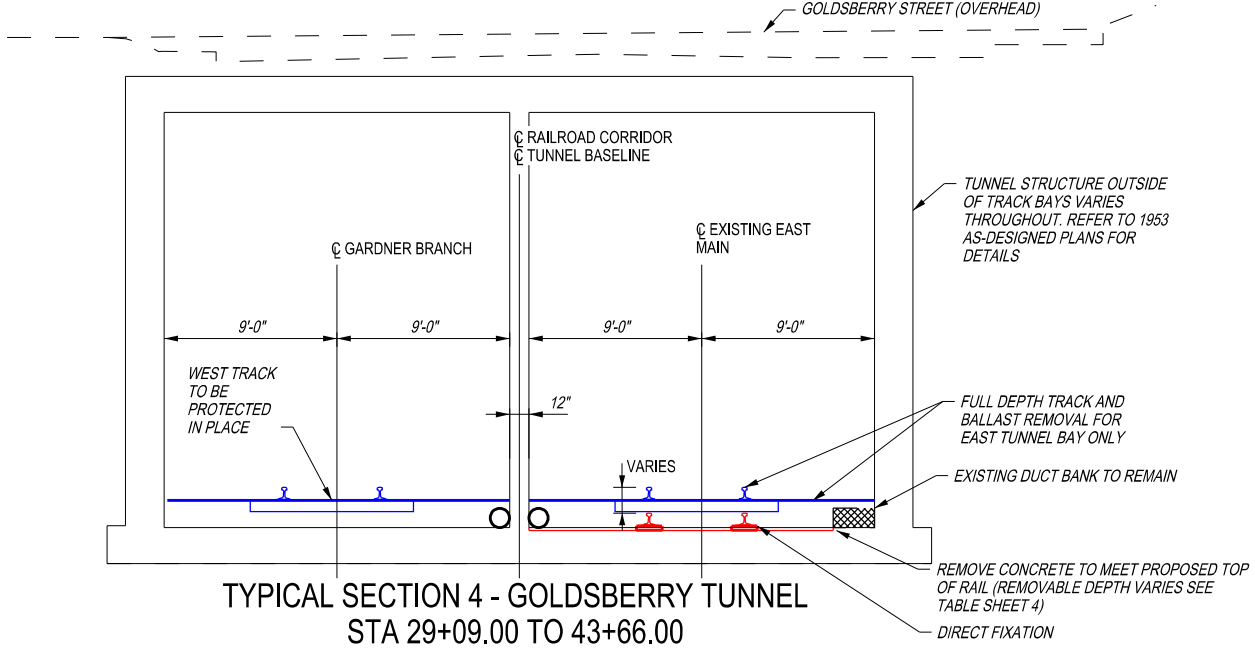


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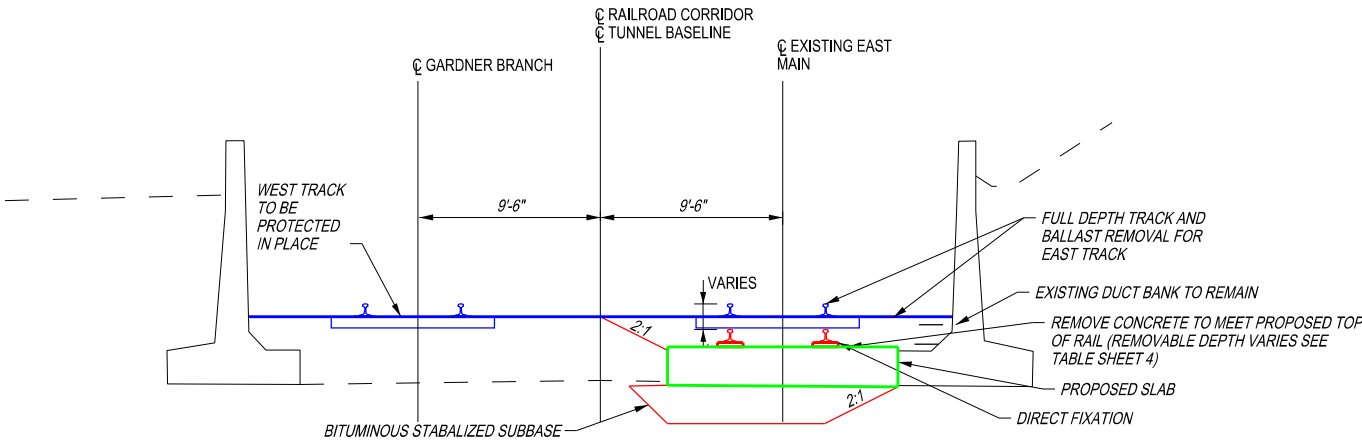


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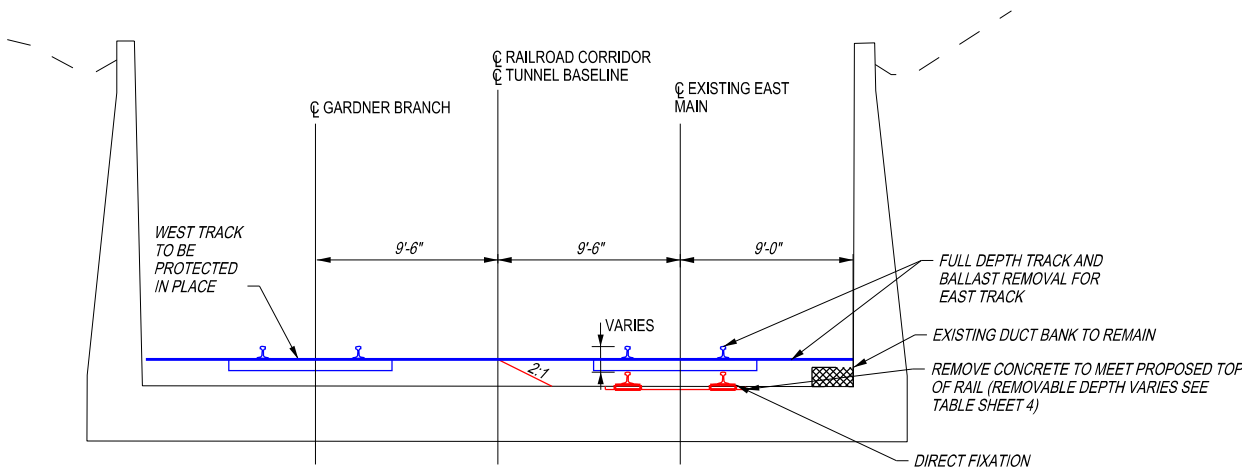
- LEGEND
- EXISTING SURFACE
 - EXISTING TRACK
 - PROPOSED TRACKWORK



TYPICAL SECTION 4 - GOLDSBERRY TUNNEL
STA 29+09.00 TO 43+66.00



TYPICAL SECTION 5 - BETWEEN TUNNELS AND NORTH OF LINCOLN STREET
(EAST TRACK) STA 45+00.00 TO STA 45+92.78



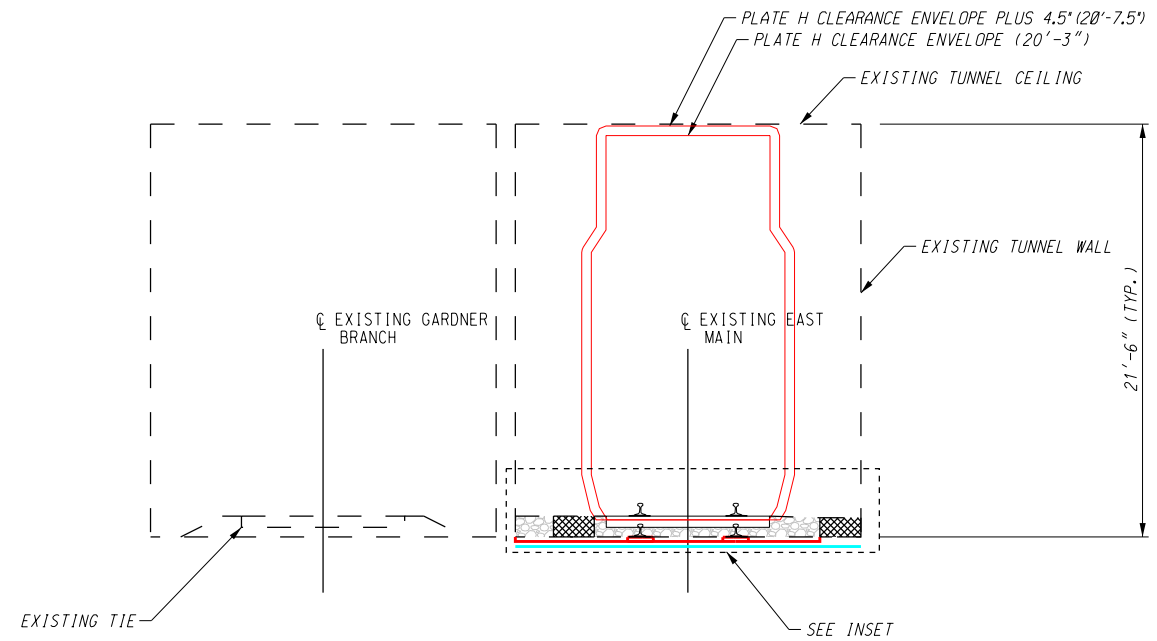
TYPICAL SECTION 6 - BETWEEN TUNNELS AND NORTH OF LINCOLN STREET
(EAST TRACK) STA 43+70.09 TO STA 45+00.00
AND (EAST TRACK) STA 47+54.26 TO STA 47+84.42

SCALE : 1" = 10'



NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

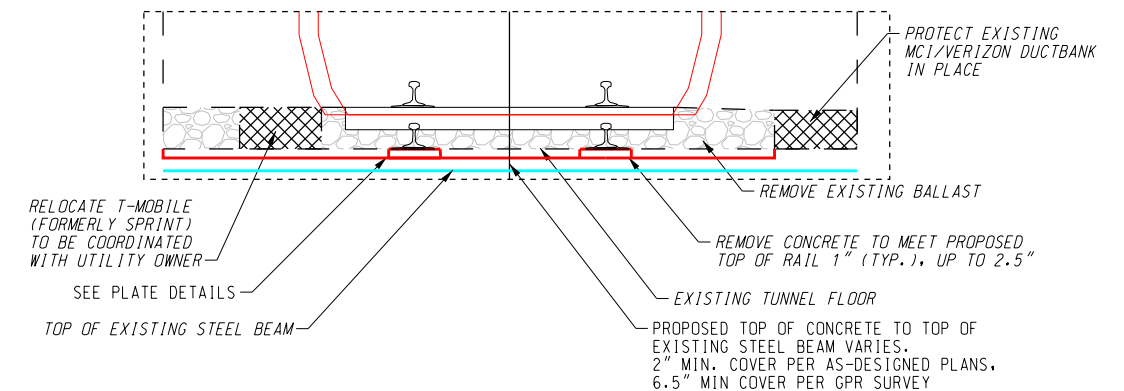
REV.	BY	DATE	DESCRIPTION
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TYPICAL SECTIONS 1 OF 2			
DGN	DD	PTD No. D3120	MILE POST MP 0.6-2.0
DWN	BC	FILE No. TRK1114427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
SHEET 3 OF 45			



TUNNEL TYPICAL SECTION

[illegible]

CONCRETE REMOVAL



INSET

LEGEND

- EXISTING SURFACE
EXISTING TRACK
PROPOSED TRACKWORK

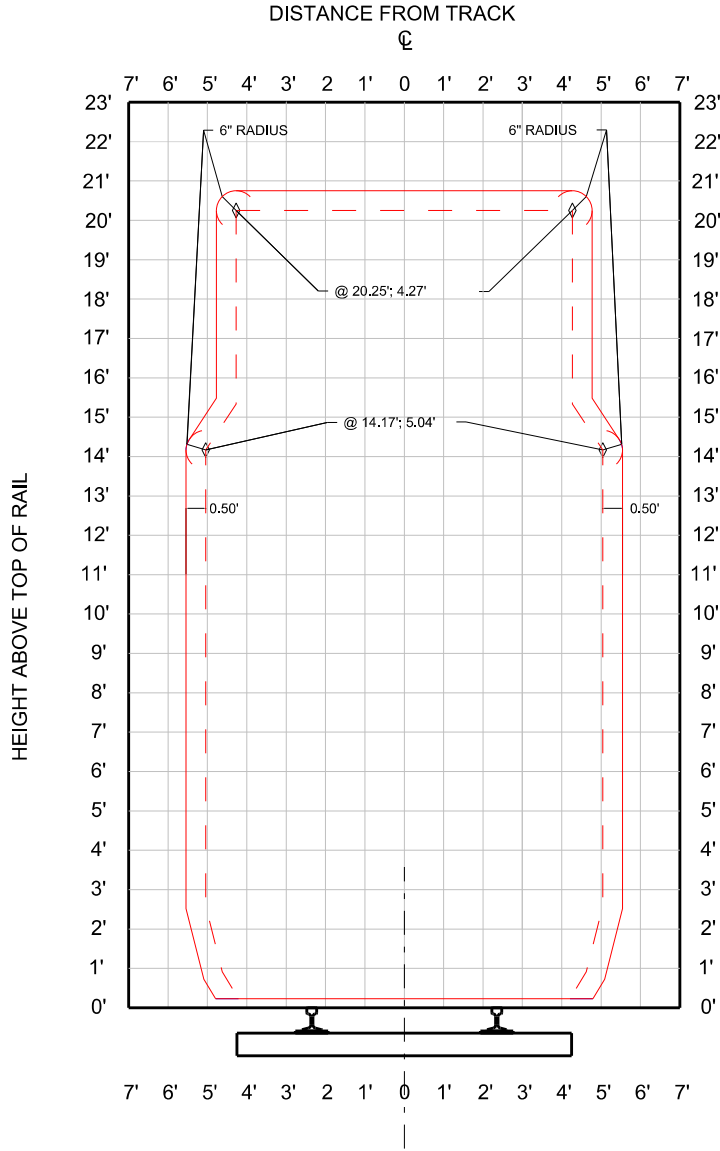
SCALE:



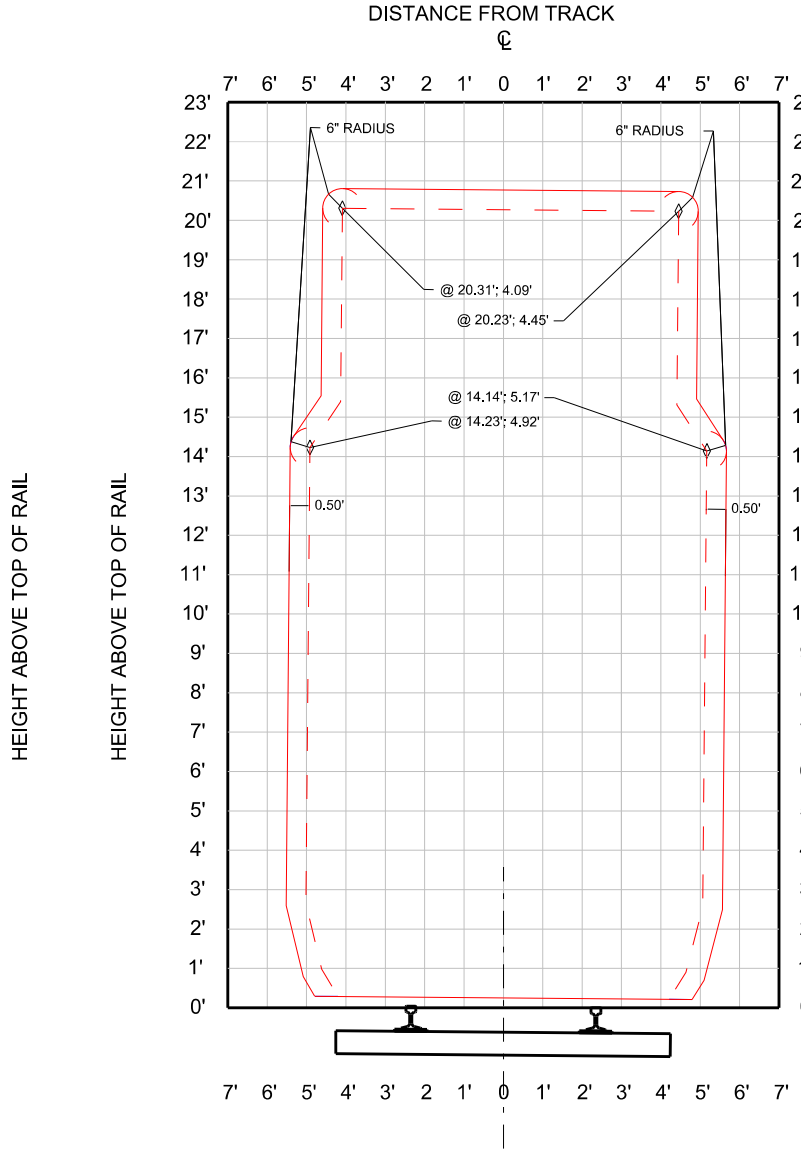
 **NORFOLK SOUTHERN**
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY

MODEL NAME: \$MODELNAME\$
DATE PRINTED: \$DATE\$

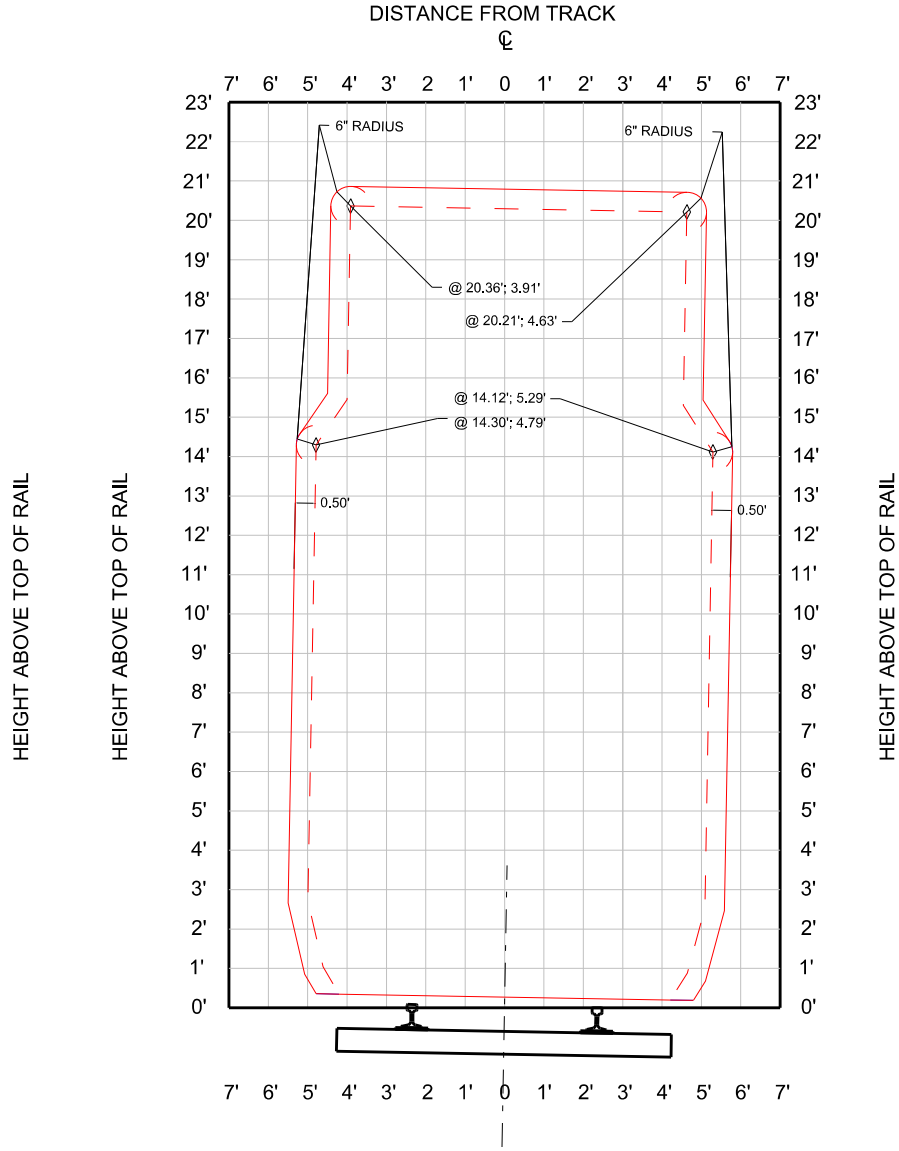
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LOCATION					
G&W PW, GARDNER BRANCH SUBDIV					
TITLE					
TYPICAL SECTIONS 2 OF 2					
JCN	DD	FID No.	D3120RN	FILE POST	MP 0.6-2.0
JCN	BC	FID No.	TRK1114427	DRAWING NUMBER	
CHK	NB	DATE	02-09-2024	TB-2022-11	
CADD	FILE	#FILE#			
LAST	SAVED:	#LASTSAVEDDATE#		SHEET 4 OF 45	



TANGENT TRACK
CLEARANCE TEMPLATE



SUPERELEVATION 0.5"
CLEARANCE TEMPLATE



SUPERELEVATION 1.0"
CLEARANCE TEMPLATE

LEGEND

- AAR PLATE H CLEARANCE ENVELOPE
- AAR PLATE H CLEARANCE WITH 6" BUFFER



SCALE : 0'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

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OWNING COMPANY

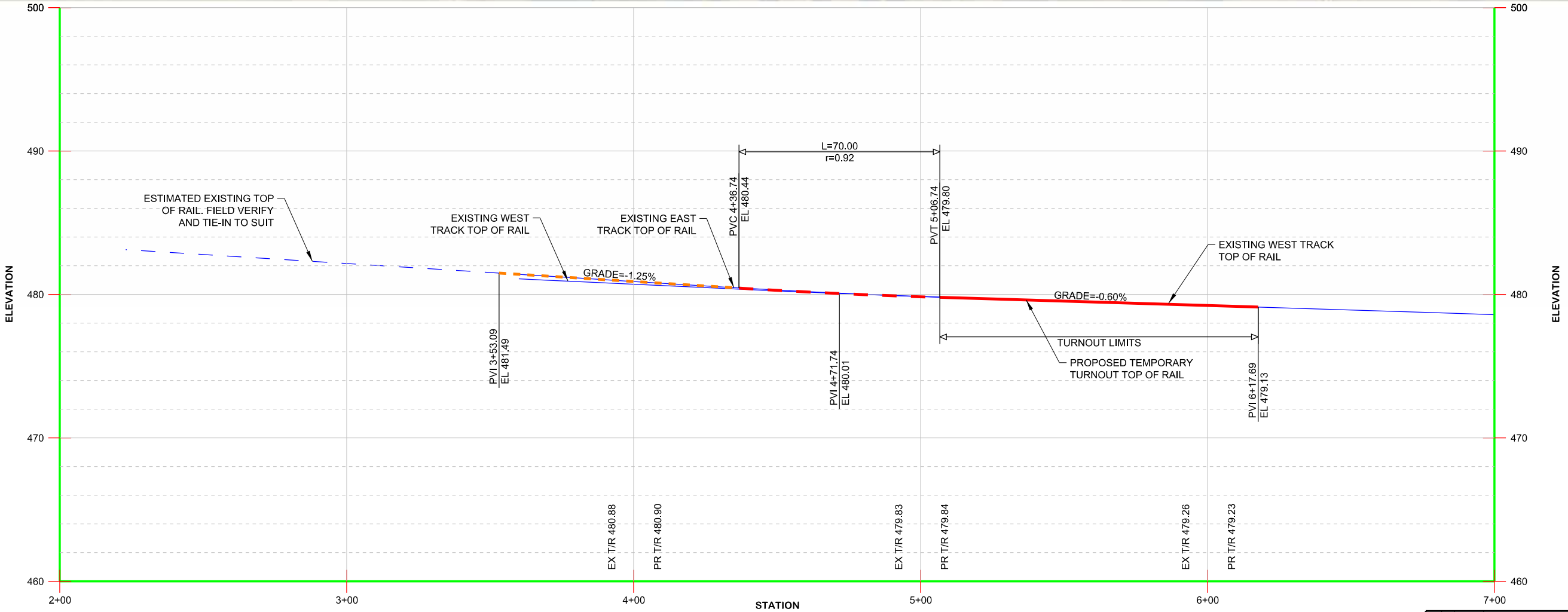
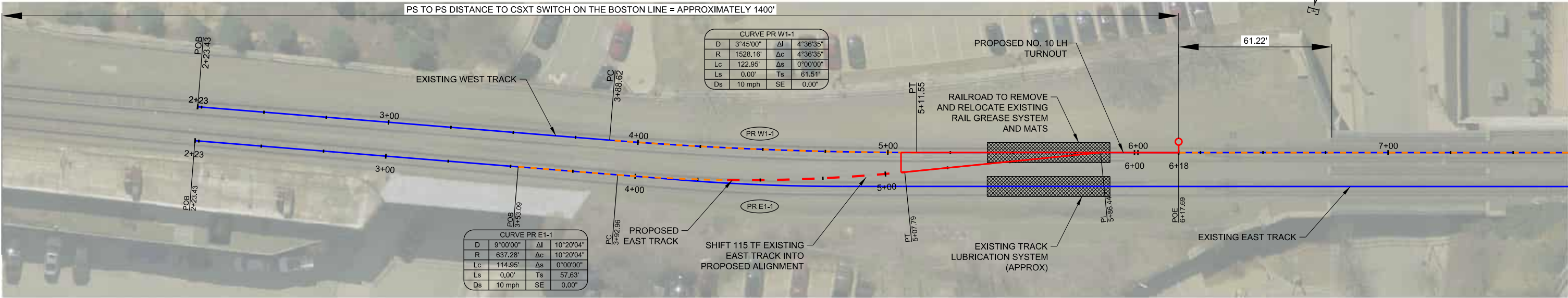
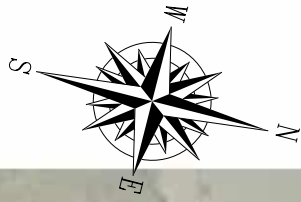
OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
CLEARANCE TEMPLATE			
DRN	DD	FILE No.	MP
BC	BC	D3120	0.6-2.0
CHK	NB	FILE No.	MP
		TRK1114427	
DATE			DRAWING NUMBER
02-09-2024			TB-2022-11
CADD FILE: *RELEAS*			
LAST SAVED: *LASTSAVEDDATE*			

TO WORCESTER, MA

TO AYER, MA



NOTES
1. FROM AN OPERATIONAL STANDPOINT, IF THIS LOCATION IS SELECTED, IT IS RECOMMENDED THAT THE TURNOUT BE LINED FOR THE DIVERGING SIDE IN ORDER TO ACCOMMODATE THE HIGHER TONNAGE, MORE FREQUENT TRAINS.

LEGEND

- EXISTING TRACK
- PROPOSED TRACK
- TRACK TO BE LINED/SHIFTED
- EXISTING SURFACE
- EXISTING TUNNEL INVERT
- EXISTING TOP OF STEEL BEAM



SCALE: 25' 0' 50' 150'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

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NORFOLK SOUTHERN RAILWAY COMPANY

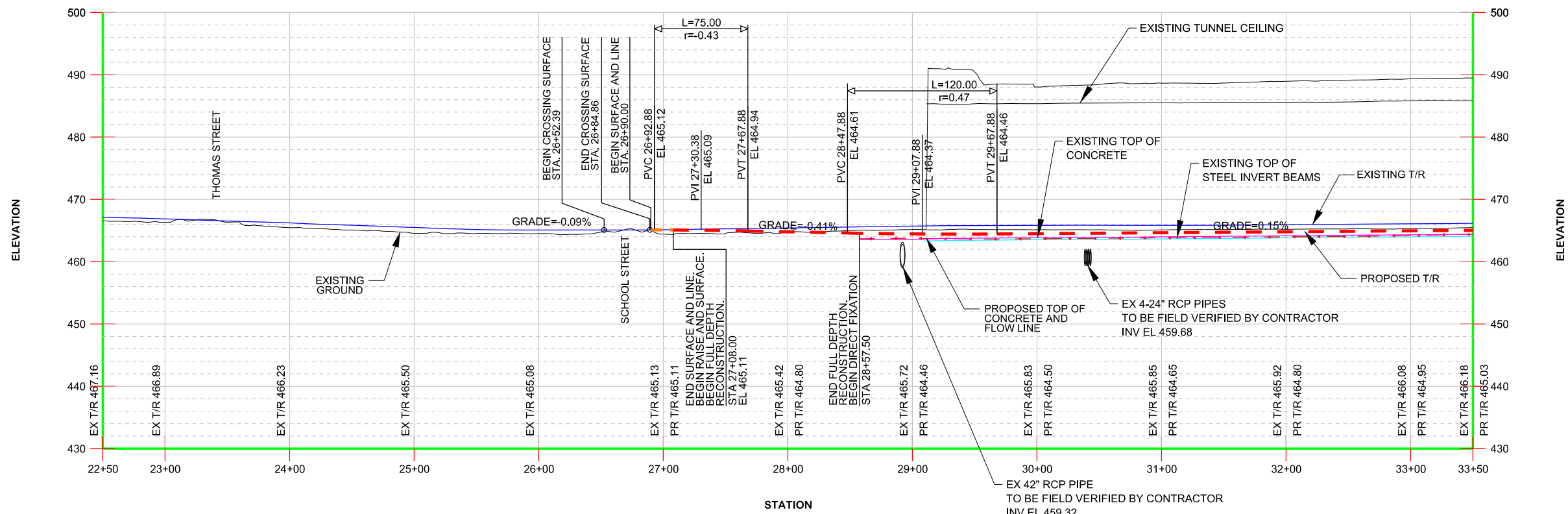
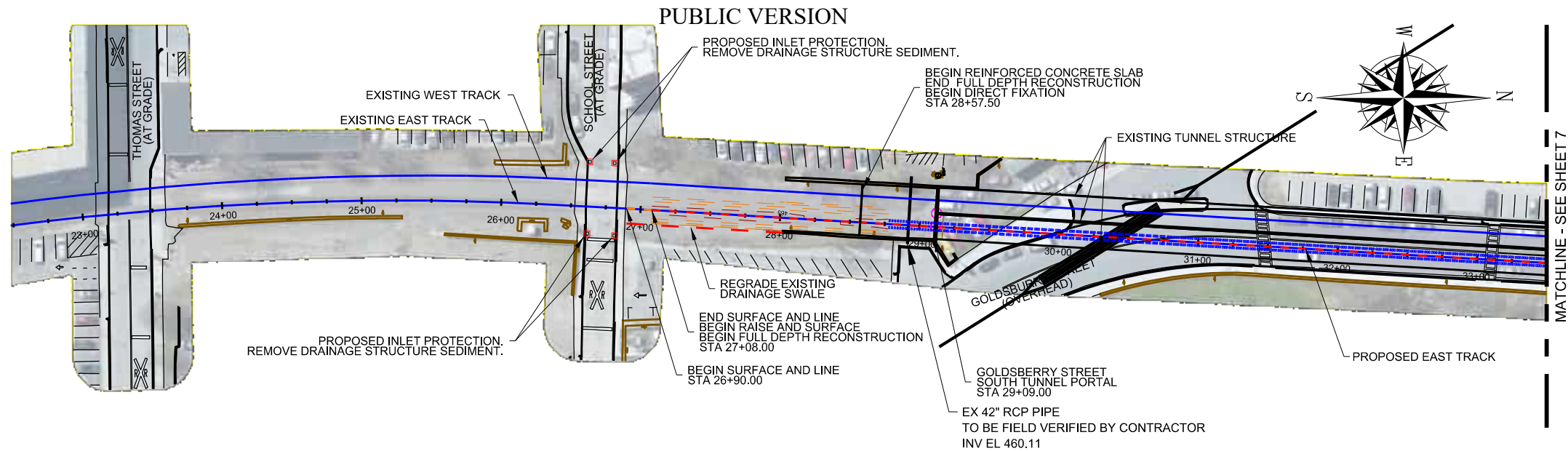
OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	TEMPORARY TURNOUT
2	BC	02-09-2024	PLAN AND PROFILE SHEET 1 OF 1
3	BC	02-09-2024	FILE NO. TRK1114427
4	BC	02-09-2024	DRAWING NUMBER
5	BC	02-09-2024	FILE POST MP 0.6-2.0
6	BC	02-09-2024	TB-2022-11
7	BC	02-09-2024	SHEET 6 OF 45

TO WORCESTER, MA

TO AYER, MA



NOTES

1. EXISTING 42" RCP PIPE INVERT LOCATED FROM AS-DESIGNED TOP OF CONCRETE.

LEGEND

- EXISTING TRACK
- PROPOSED TRACK
- TRACK TO BE LINED/SHIFTED
- EXISTING SURFACE
- EXISTING TUNNEL INVERT
- EXISTING TOP OF STEEL BEAM

SCALE: 1" = 50'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

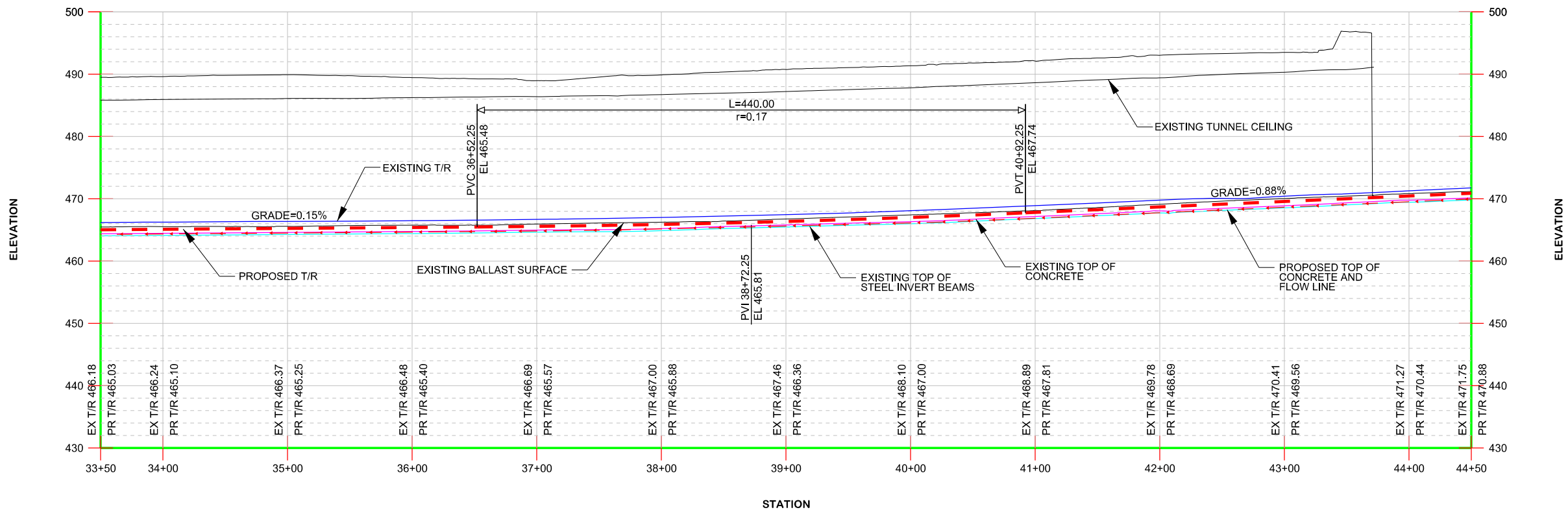
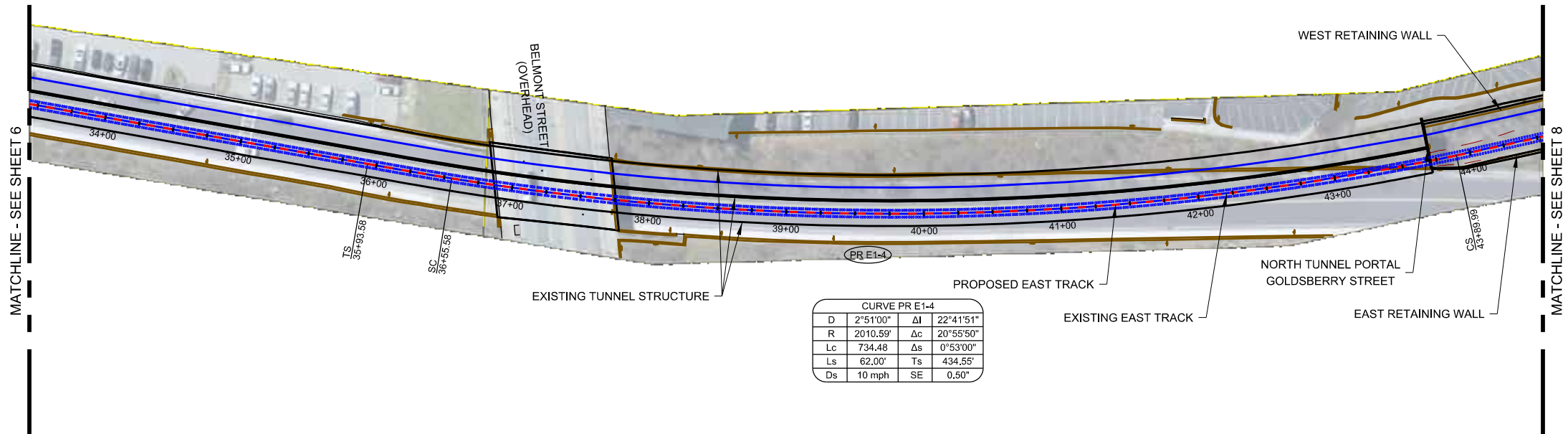


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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV. BY	DATE	DESCRIPTION
BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
MAIN TRACK 1 PLAN AND PROFILE SHEET 1		
DRN	DD	D3120
CHK	BC	TRK1114427
DATE	02-09-2024	DRAWING NUMBER
FILE	TB-2022-11	FILE POST MP 0.6-2.0
LAST SAVED	LAST SAVED	SHEET 7 OF 45

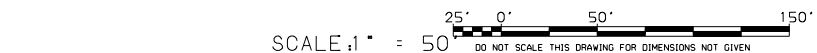
TO WORCESTER, MA

TO AYER, MA



LEGEND

- EXISTING TRACK
- PROPOSED TRACK
- TRACK TO BE LINED/SHIFTED
- EXISTING SURFACE
- EXISTING TUNNEL INVERT
- EXISTING TOP OF STEEL BEAM



NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

OPERATING DIVISION

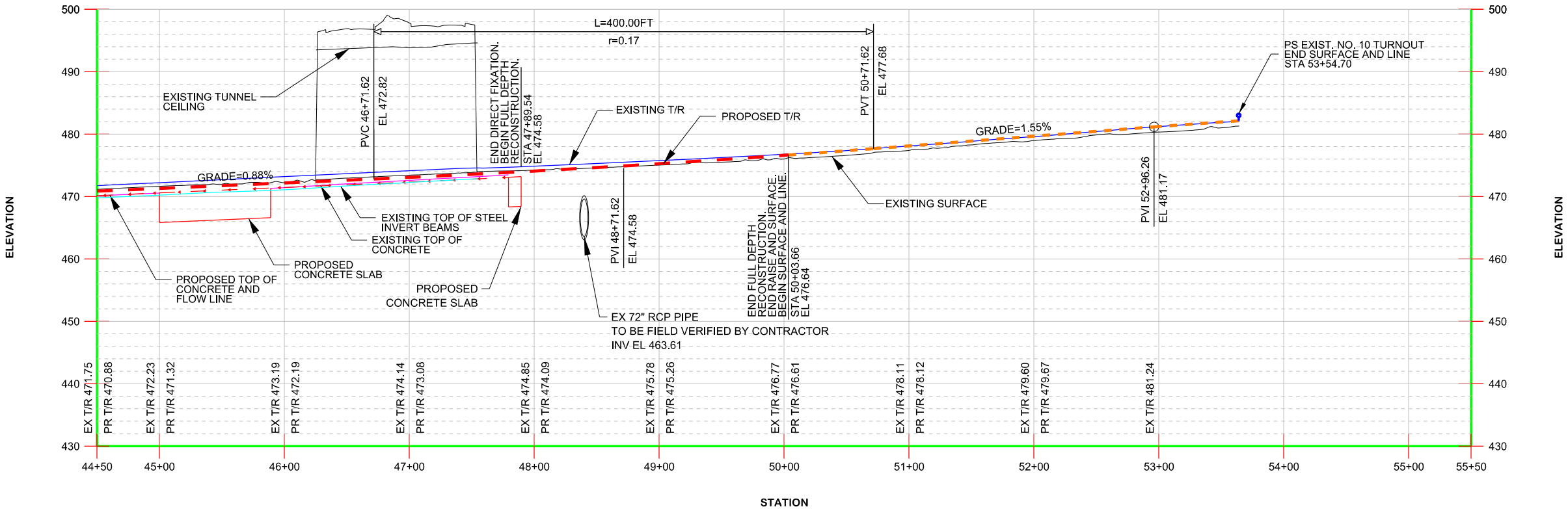
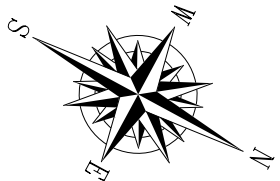
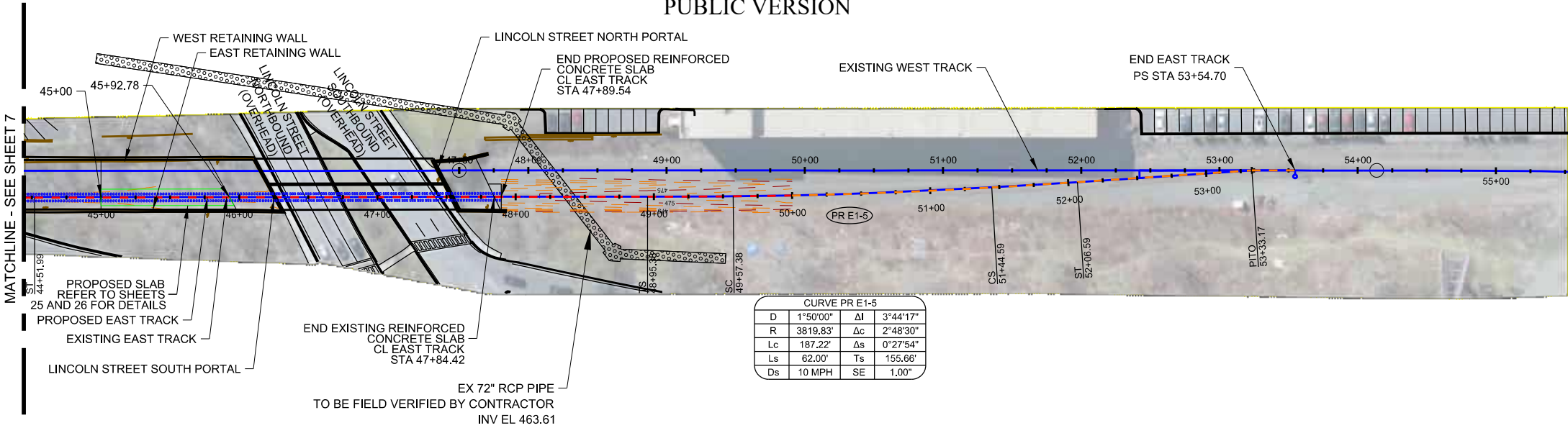
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE: MAIN TRACK 1 PLAN AND PROFILE SHEET 2 OF 3			
DRN	DD	FILE No. D3120	FILE POST MP 0.6-2.0
CHK	BC	FILE No. TRK1114427	DRAWING NUMBER
	NB	DATE 02-09-2024	TB-2022-11
SHEET 8 OF 45			

PUBLIC VERSION

TO WORCESTER, MA

TO AYER, MA



- LEGEND
- EXISTING TRACK
 - PROPOSED TRACK
 - TRACK TO BE LINED/SHIFTED
 - EXISTING SURFACE
 - EXISTING TUNNEL INVERT
 - EXISTING TOP OF STEEL BEAM

SCALE: 1" = 50'



NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY

REV.	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
MAIN TRACK 1 PLAN AND PROFILE SHEET 3 OF 3			
DRN	DD	FILE No. D3120	FILE POST MP 0.6-2.0
OWN	BC	FILE No. TRK1114427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
SHEET 9 OF 45			

CROSSOVER EAST TRACK GEOMETRY DATA									
Element	Curve	Point	Station	Bearing	Coordinates		Data		
					Northing	Easting			
TANGENT	E1 - 1	POB	2+23.43	N 9°39'45.21" W	2920679.961	576164.1768	Lt=169.531' Pt: N2920903.902, E576126.048 PI STATION= 4+50.59 Delta c=10°20'01.26" Tc=17.629' V=10mph Dc=9°00'00.00" Ec=0.63" R=637.275' CC: N2920740.1265, E576560.4866 Ea=0.00" Eu=0.63"		
		PC	3+92.96		2920847.09	576135.7205			
CURVE		PC	4+50.59	2920903.902	576126.0477				
		PT	5+07.79	2920958.057	576106.31				
TANGENT				N 10°59'49.48" W			LI=78.645'		
TANGENT		PI	5+86.44		2921031.961	576079.4155			
				N 14°16'20.48" W					
TANGENT		PI	6+17.69		2921062.246	576071.7414			
		POI	7+78.88	N 14°16'20.48" W	2921218.467	576032.0014			

CROSSOVER WEST TRACK GEOMETRY DATA									
Element	Curve	Point POB	Station 2+23.43	Bearing	Coordinates		Data		
					Northing 2920677.679	Easting 576150.7689			
TANGENT				N 9°39'45.21" W			LI=165.191'		
		PC	3+88.62		2920840.626	576123.0423	PI: N2920901.162, E576112.718		
CURVE	W1-1	PC	4+50.13		2920901.162	576112.7185	PI STATION= 4+50.13		
							Delta c= 4°36'35.26" Dc= 3°45'00.00"		
							Tc=61.500' Ec= 1.237'		
							V=10mph Ea=0.26" Eu=0.26"		
		PI	5+11.55		2920960.771	576039.5548	Cc: N2920584.0319, E574616.5616		
							Ea=0.00' Eu=0.26"		
TANGENT		POI	7+77.45	N 14°16'20.48" W	2921218.467	576032.0014	LI=265.903'		

GOLDSBERRY TUNNEL GEOMETRY DATA										
Element	Curve	Point	Station	Bearing	Coordinates		Data			
					Northing	Easting				
TANGENT	E1-4	ST	26+84.30	N 7°21'19.71" E	2923089.103	575741.0862	LI=909.199' CURVE STATION: ANGI 1 (1) 27°41'50.94" LI PI: N2924421.8728, E575913.1191 PI STATION: 40+28.05 Delta c=20°55'50.40" Tc=371.362' V=10mph Delta s= 0°53'00.27" X 61.999'			
SPIRAL		IS	35+93.50	2923960.899	575857.4862	Is= 62.000'	LI= 41.334'	SI= 20.667'		
		PIs	36+34.83	2924031.893	575862.778	Y= 0.319'	c= 0.080'	Xo= 31.000'		
CURVE		SC	36+55.50	2921052.429	575865.1076	Delta c=2°51'00.00"	Dc=2°51'00.00"	R=2010.586'	Lo(chord)=734.185'	
	PIc	40+26.00	2924421.444	575908.9603	Ec= 34.012'	Ec= 34.012'	CC: N2924279.0593,	E573067.3357		
SPIRAL	E1-5	CS	43+89.98	N 15°20'31.24" W	2924781.063	575814.2425	Delta c=2°18'29.64"	Dc=1°30'00.00"	R=3819.828'	Lo(chord)=187.221'
		PIs	44+10.65		2924801.076	575809.0823	Is= 62.000'	LI= 41.334'	SI= 20.667'	
		ST	44+51.98		2921840.937	575798.1462	Y= 0.319'	c= 0.080'	Xo= 31.000'	
TANGENT						LI=443.309' CURVE STATION: ANGI 1 (1) 3°44'17.55" LI PI: N2925118.6335, E575639.6508 PI STATION: 50+51.03 Delta c=2°18'29.64" Tc=93.629' V= 10mph Delta s= 0°27'53.95" X=62.000'				
SPIRAL	IS	48+95.37	2925268.525	575680.8343	Is= 62.000'	LI= 41.333'	SI= 20.667'			
	PIs	49+36.71	2925308.385	575669.8983	Y= 0.168'	c= 0.042'	Xo= 31.000'			
CURVE	SC	49+57.37	2925328.27	575664.2687	Delta c=2°18'29.64"	Dc=1°30'00.00"	R=3819.828'	Lo(chord)=187.221'		
	PIc	50+51.00	2925418.359	575630.7643	Ec= 1.147'	Ec= 1.147'	CC: N2924207.7579,	E571900.6880		
SPIRAL	E1-5	CS	51+41.59	N 19°04'48.78" W	2925507.09	575608.8768	Gamma= 0.11"	Gamma= 1.00"	Gamma= 0.89"	
		PIs	51+65.26		2925526.675	575602.2797	Is=62.000'	LI=41.333'	ST=20.667'	
		ST	52+06.59		2925565.736	575580.7602	Y=0.168'	c=0.042'	Xo=31.000'	
TANGENT						LI=31.251'				
TANGENT	PI	53+33.17	2925685.365	575547.3899						
	POE	53+61.12	2925715.522	575539.1666						

LEGEND



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NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY

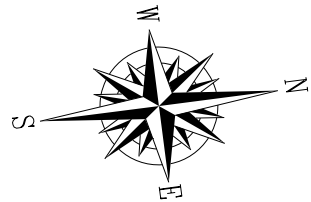
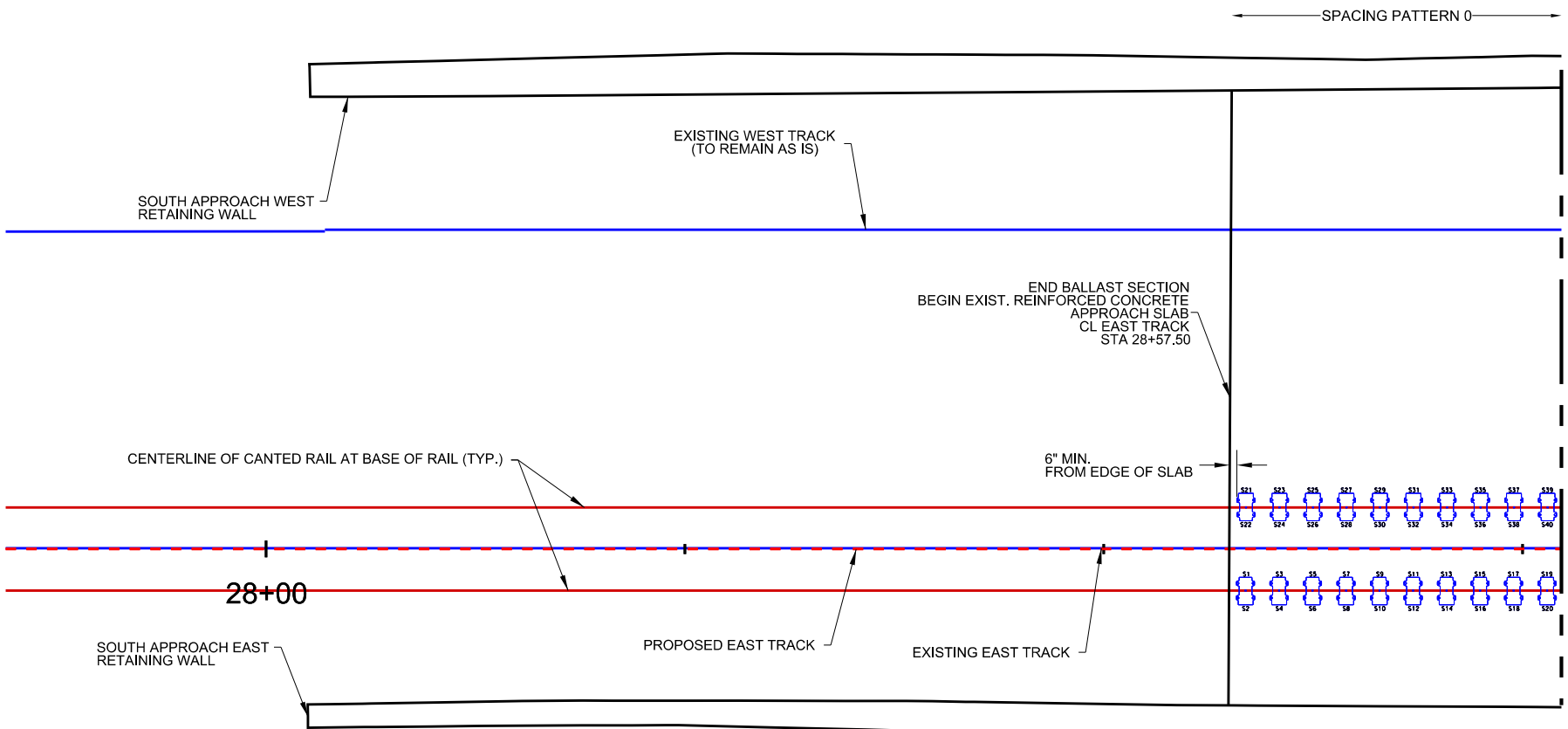
OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV. BY	DATE	DESCRIPTION
LOCATION		G&W PW, GARDNER BRANCH SUBDIV
TITLE		GEOMETRY TABLES
DWN	DD	FILE No. D3120
CHK	BC	FILE No. TRK1114427
	DATE	02-09-2024
	FILE No.	TB-2022-11
	LAST SAVED	LAST SAVED DATE

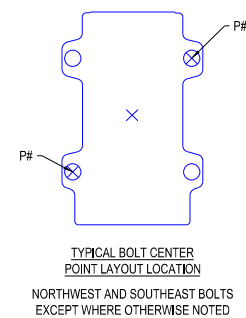
TO WORCESTER, MA

PUBLIC VERSION

TO AYER, MA



POINT	NORTHING	EASTING
S1	2921261.5700	575765.4516
S2	2921260.9409	575765.2020
S3	2921263.8535	575765.7076
S4	2921267.8374	575766.4580
S5	2921265.8371	575765.8637
S6	2921264.8159	575766.7141
S7	2921267.9208	575766.2197
S8	2921266.8805	575766.8701
S9	2921269.8847	575766.4157
S10	2921268.0030	575767.2262
S11	2921271.8877	575766.7318
S12	2921270.8886	575767.4827
S13	2921273.8712	575768.9679
S14	2921272.8501	575767.7363
S15	2921275.8548	575767.7439
S16	2921274.8338	575767.9943
S17	2921277.8363	575767.4899
S18	2921278.8172	575768.2504
S19	2921279.8219	575767.7560
S20	2921278.8007	575768.5064
S21	2921282.8110	575769.5331
S22	2921281.8009	575761.2835
S23	2921284.8145	575760.7897
S24	2921283.8934	575761.5398
S25	2921286.8861	575761.0482
S26	2921285.8769	575761.7906
S27	2921288.8018	575761.3013
S28	2921287.8805	575762.0517
S29	2921270.8852	575761.5573
S30	2921289.8440	575762.3077
S31	2921272.8467	575761.8134
S32	2921271.8276	575762.8638
S33	2921274.8373	575762.0884
S34	2921273.8111	575762.8190
S35	2921276.8168	575762.3255
S36	2921275.8847	575763.0799
S37	2921278.4890	575762.5615
S38	2921277.4782	575763.3319
S39	2921280.4829	575762.8376
S40	2921279.4817	575763.5600



SPACING PATTERN TABLE		
PATTERN	BETWEEN FASTENERS	SPACING OVER INVERT BEAMS
0	24.0"	

EXISTING TRACK

PROPOSED TRACK

TRACK TO BE LINED/SHIFTED

EXISTING SURFACE FEATURES

EXISTING TUNNEL FEATURES

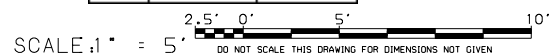
CL EXISTING INVERT BEAM

PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)

EXISTING EDGE OF INVERT BEAM FLANGE

PROPOSED DFF

'NO BOLT' LOCATION



NORFOLK SOUTHERN
RAILWAY COMPANY

REV. BY: DATE: DESCRIPTION:

LOCATION: G&W PW, GARDNER BRANCH SUBDIV

TITLE: DIRECT FIXATION PLANS SHEET 1 OF 14

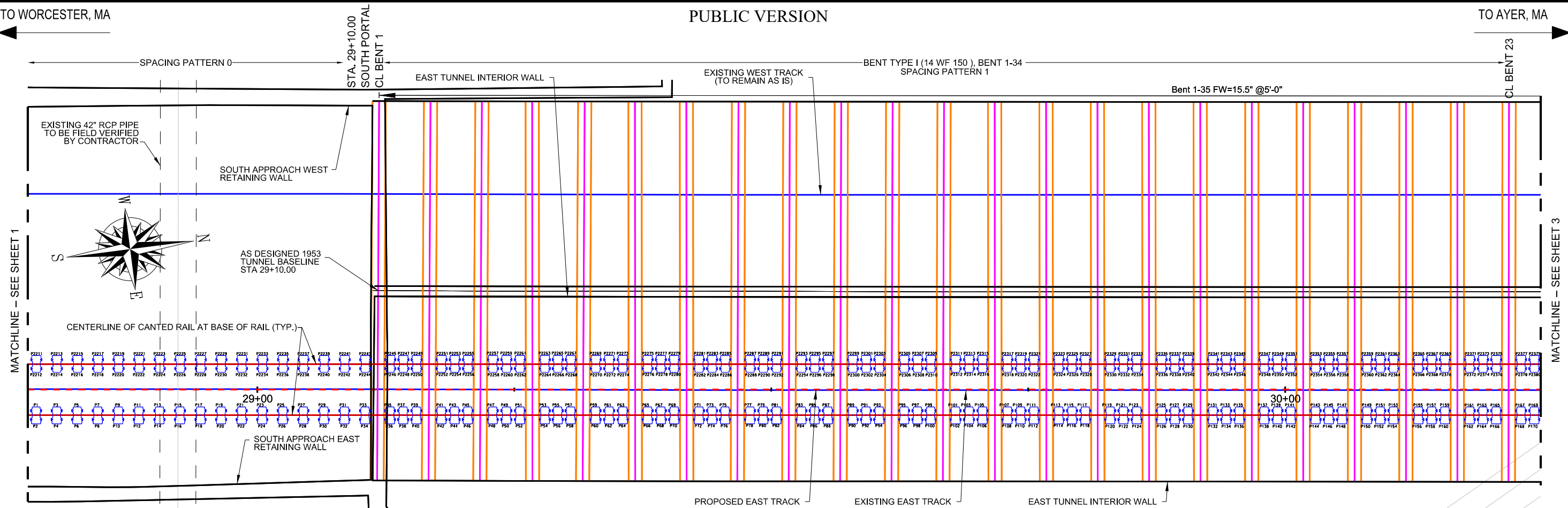
FILE NO.: D3120
FILE NO.: TRK1114427
DATE: 02-09-2024
DRAWING NUMBER: TB-2022-11

SHEET 11 OF 45

TO WORCESTER, MA

PUBLIC VERSION

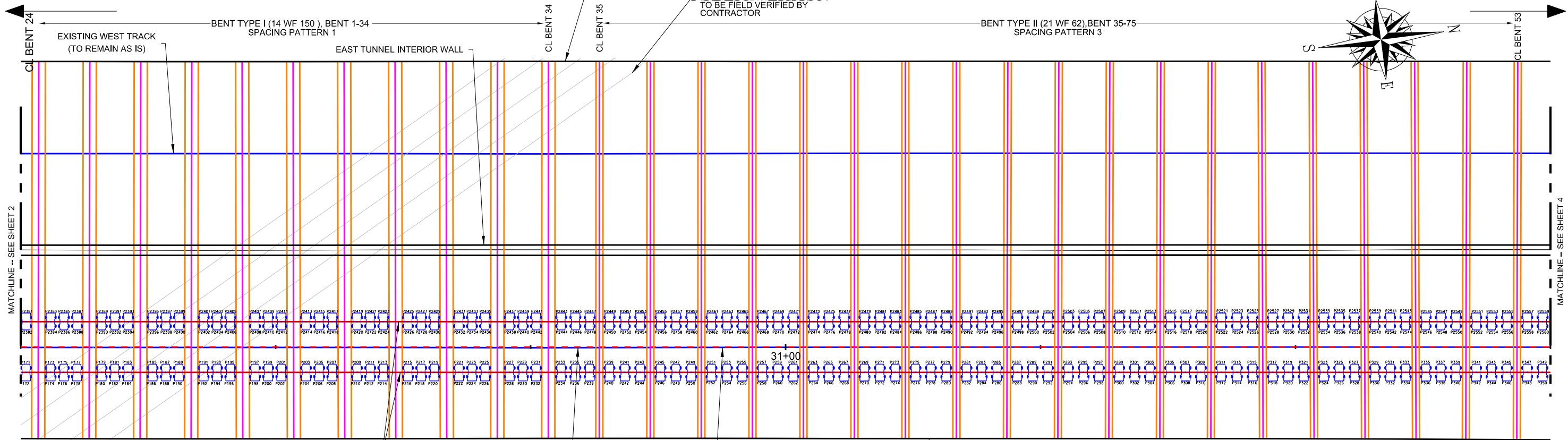
TO AYER, MA



POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
P1	2923281.8054	575766.0120	P41	2923320.8025	575773.5590	P81	2923363.2123	575777.2336	P121	2923385.7213	575781.5538	P161	2923420.1108	575785.8593	P202	2923454.2031	575790.1934	P242	2923488.2856	575794.5275	P282	2923522.3681	575798.8616
P2	2923282.7869	575766.2861	P42	2923321.1601	575773.8715	P82	2923364.2123	575777.2336	P122	2923386.7213	575781.5538	P162	2923421.1108	575785.8593	P203	2923455.2031	575790.1934	P243	2923489.2856	575794.5275	P283	2923523.3681	575798.8616
P3	2923283.7684	575766.5602	P43	2923322.1612	575773.2240	P83	2923365.8424	575777.5435	P123	2923388.0010	575781.7190	P163	2923421.4132	575786.0335	P204	2923456.2031	575790.1934	P244	2923490.2856	575794.5275	P284	2923524.3681	575798.8616
P4	2923282.7578	575766.0185	P44	2923321.1601	575773.8715	P84	2923364.5213	575778.2859	P124	2923388.8823	575782.1728	P164	2923420.4905	575786.7839	P205	2923456.0035	575789.3004	P245	2923489.2856	575794.5275	P285	2923524.3846	575798.8616
P5	2923283.7445	575766.2936	P45	2923323.4899	575773.3891	P85	2923366.8718	575777.7086	P125	2923389.0021	575782.3204	P165	2923422.6810	575786.1877	P206	2923456.6845	575789.2508	P246	2923490.2856	575794.5275	P286	2923524.3910	575798.8616
P6	2923284.7533	575766.2741	P46	2923322.4308	575774.1366	P86	2923365.8206	575778.4561	P126	2923389.3789	575782.7800	P166	2923421.6629	575786.9481	P207	2923456.8823	575789.6605	P247	2923491.2856	575794.5275	P287	2923524.4149	575798.8616
P7	2923287.7560	575766.7802	P47	2923325.8615	575773.5592	P87	2923368.0212	575777.8738	P127	2923391.6814	575782.1856	P167	2923425.0005	575786.5071	P208	2923456.9121	575800.0004	P248	2923492.2856	575794.5275	P288	2923524.4381	575798.8616
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TO WORCESTER, MA

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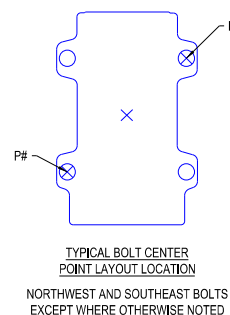


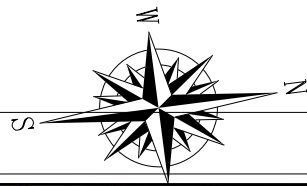
POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
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P178	2923134.0185	575793.8875	P218	2923168.6090	575798.5066	P258	2923202.7948	575802.4888	P298	2923236.4845	575806.8821	P338	2923270.7518	575811.5340	P378	2923304.4744	575815.7432	P418	2923338.8416	575819.0000
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P206	2923162.0185	575821.8875	P246	2923198.5830	575827.9004	P286	2923232.7690	575831.8817	P326	2923266.4587	575836.3500	P366	2923299.7230	575841.4960	P406	2923333.4544	575819.0000	P446	2923368.0960	575846.0000
P207	2923163.0185	575822.8875	P247	2923199.6535	575828.9501	P287	2923233.8395	575832.9314	P327	2923267.5292	575837.4007	P367	2923300.7935	575842.5457	P407	2923334.4848	575819.0000	P447	2923369.1760	575847.0000
P208	2923164.0185	575823.8875	P248	2923200.7240	575830.0008	P288	2923234.9100	575833.9821	P328	2923268.6000	575838.4504	P368	2923301.8680	575843.5954	P408	2923335.5152	575819.0000	P448	2923370.2560	575848.0000
P209	2923165.0185	575824.8875	P249	2923201.7945	575831.0505	P289	2923235.9805	575835.0328	P329	2923269.6705	575839.5001	P369	2923302.9385	575844.6451	P409	2923336.5456	575819.0000	P449	2923371.3360	575849.0000
P210	2923166.0185	575825.8875	P250	2923202.8650	575832.1002	P290	2923236.0510	575836.0835	P330	2923270.7410	575840.5498	P370	2923304.0190	575845.6948	P410	2923337.5760	575819.0000	P450	2923372.4160	575850.0000

SPACING PATTERN TABLE		
PATTERN	BETWEEN FASTENERS	SPACING OVER INVERT BEAMS
1	15.5"	29"
2	15.5"	29"
3	18.125"	23.75"

LEGEND

- EXISTING TRACK
- PROPOSED TRACK
- TRACK TO BE LINED/SHIFTED
- EXISTING SURFACE FEATURES
- EXISTING TUNNEL FEATURES
- CL EXISTING INVERT BEAM
- PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)
- EXISTING EDGE OF INVERT BEAM FLANGE
- PROPOSED DFF
- 'NO BOLT' LOCATION

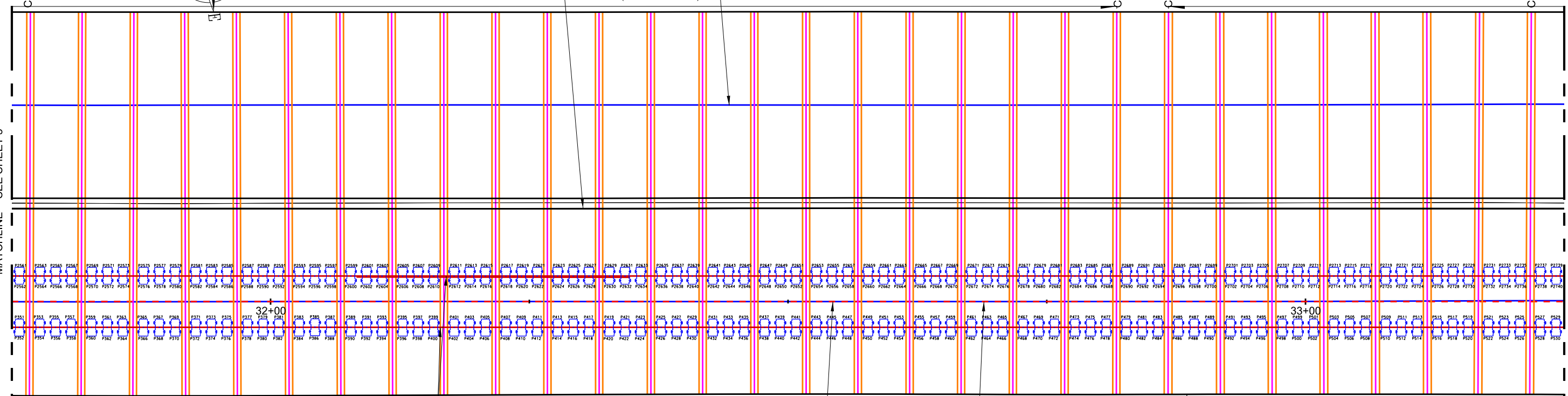




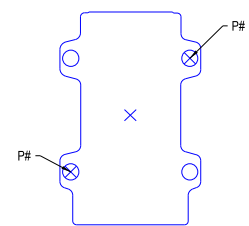
SPACING PATTERN 4

—BENT TYPE III (24 WF 76), BENT 76-143
SPACING PATTERN 5

MATCHLINE - SEE SHEET 5



EAST TUNNEL INTERIOR WALL

[illegible]

TYPICAL BOLT CENTER
POINT LAYOUT LOCATION

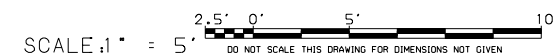
NORTHWEST AND SOUTHEAST BOLTS
EXCEPT WHERE OTHERWISE NOTED

SPACING PATTERN TABLE		
PATTERN	BETWEEN FASTENERS	SPACING OVER INVERT BEAMS
3	18.125"	23.75"
4	18.625"	22.75"
5	18.625"	22.75"

LEGEND

EXISTING TRACK		EXISTING EDGE OF INVERT
PROPOSED TRACK		BEAM FLANGE
TRACK TO BE LINED/SHIFTED		PROPOSED DFF
EXISTING SURFACE FEATURES		'NO BOLT' LOCATION
EXISTING TUNNEL FEATURES		
CL EXISTING INVERT BEAM		
PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)		

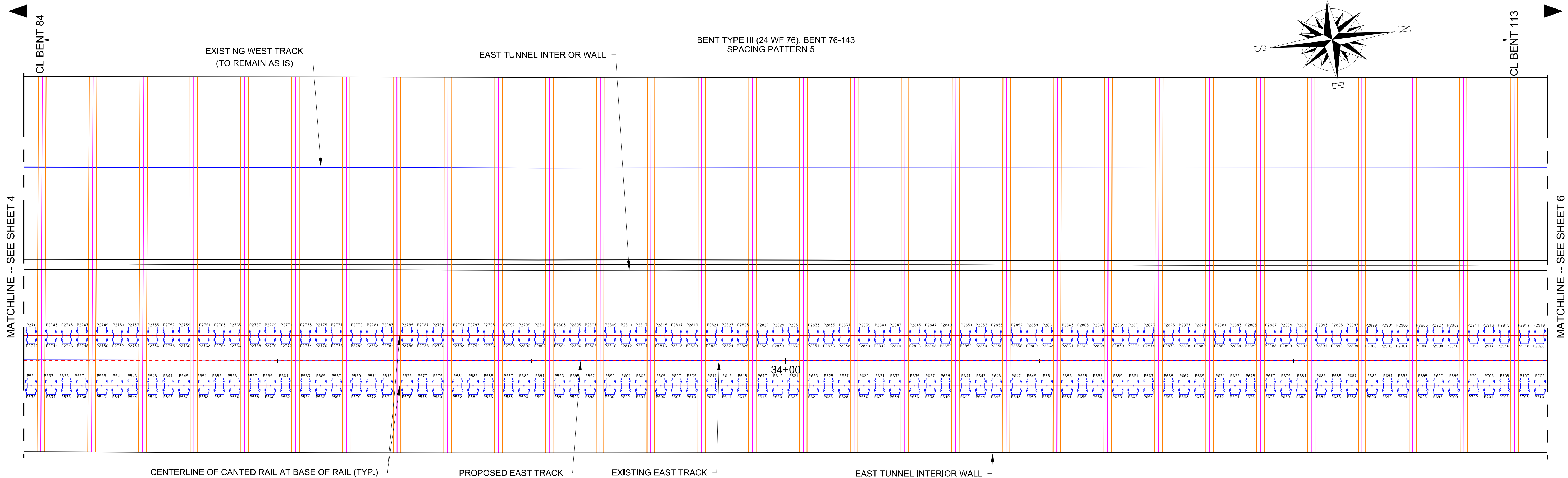
EXISTING EDGE OF INV
BEAM FLANGE
PROPOSED DFF
'NO BOLT' LOCATION



REV	BY	DATE	DESCRIPTION	
LOCATION			G&W PW, GARDNER BRANCH SUBDIV	
TITLE				
DIRECT FIXATION PLANS SHEET 4 OF 14				
DATE	DD	FILE NO.	FILE POST	MP
02-09-2024	03120	03120	MP	0.6-2.0
DATE	FILE NO.	DRAWING NUMBER		
02-09-2024	TRK11114427	TB-2022-11		
DATE	FILE NO.	LAST SAVED DATE		
02-09-2024	TRK11114427	LAST SAVED DATE		
CROSS FILE		SHEET 14 OF 45		

TO WORCESTER, MA

TO AYER, MA



POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
P531	2923725.3726	575825.2709	P571	2923758.6293	575829.5639	P611	2923791.8215	575833.8485	P651	2923824.5727	575838.0748	P691	2923857.8036	575842.3660	P2761	2923742.8780	575822.5268
P532	2923724.3514	575826.0213	P572	2923757.6081	575830.3143	P612	2923790.8004	575834.5990	P652	2923823.5541	575838.8287	P692	2923856.7824	575843.1165	P2762	2923741.8569	575823.2773
P533	2923727.3182	575825.5220	P573	2923760.1356	575829.7568	P613	2923793.3289	575834.0432	P653	2923826.5192	575838.3275	P693	2923859.3095	575842.5589	P2763	2923744.3848	575822.7199
P534	2923726.2971	575826.2725	P574	2923759.1170	575830.5107	P614	2923792.3077	575834.7936	P654	2923825.4982	575839.0781	P694	2923858.2908	575843.3127	P2764	2923743.3659	575823.4734
P535	2923728.8241	575825.7164	P575	2923762.0805	575830.0094	P615	2923794.8349	575834.2360	P655	2923828.0261	575838.5221	P695	2923861.2543	575842.8104	P2765	2923745.8926	575822.9146
P536	2923727.8030	575826.4669	P576	2923761.0594	575830.7598	P616	2923793.8163	575834.9899	P656	2923827.0049	575839.2726	P696	2923860.2332	575843.5609	P2766	2923744.8737	575823.6680
P537	2923730.3288	575825.9091	P577	2923763.5881	575830.2040	P617	2923796.7804	575834.4887	P657	2923829.5316	575838.7149	P697	2923862.7714	575843.0073	P2767	2923747.8369	575823.1670
P538	2923729.3101	575826.6630	P578	2923762.5669	575830.9545	P618	2923795.7592	575835.2391	P658	2923828.5129	575839.4688	P698	2923861.7502	575843.7578	P2768	2923746.8157	575823.9174
P539	2923732.2771	575826.1622	P579	2923765.0809	575830.3952	P619	2923798.2877	575834.6833	P659	2923831.4781	575838.9676	P699	2923864.2884	575843.2016	P2769	2923749.3436	575823.3601
P540	2923731.2560	575826.9126	P580	2923764.0623	575831.1490	P620	2923797.2666	575835.4337	P660	2923830.4571	575839.7182	P700	2923863.2697	575843.9555	P2770	2923748.3247	575824.1135
P541	2923733.7830	575826.3566	P581	2923767.0259	575830.6477	P621	2923799.7938	575834.8762	P661	2923832.9850	575839.1623	P701	2923866.2318	575843.4530	P2771	2923750.8515	575823.5547
P542	2923732.7619	575827.1070	P582	2923766.0047	575831.3982	P622	2923798.7752	575835.6300	P662	2923831.9638	575839.9127	P702	2923865.2107	575844.2034	P2772	2923749.8326	575824.3082
P543	2923735.2877	575826.5492	P583	2923768.5334	575830.8424	P623	2923801.7392	575835.1288	P663	2923834.4904	575839.3550	P703	2923867.7396	575843.6486	P2773	2923752.7957	575823.8071
P544	2923734.2690	575827.3031	P584	2923767.5123	575831.5928	P624	2923800.7181	575835.8792	P664	2923833.4718	575840.1089	P704	2923866.7184	575844.3991	P2774	2923751.7746	575824.5575
P545	2923737.2360	575826.8023	P585	2923770.0398	575831.0353	P625	2923803.2466	575835.3234	P665	2923836.4370	575839.6078	P705	2923869.2472	575843.8417	P2775	2923754.3025	575824.0002
P546	2923736.2149	575827.5527	P586	2923769.0212	575831.7892	P626	2923802.2254	575836.0738	P666	2923835.4159	575840.3583	P706	2923868.2286	575844.5956	P2776	2923753.2836	575824.7537
P547	2923738.7687	575827.0002	P587	2923771.9847	575831.2879	P627	2923804.7526	575835.5163	P667	2923837.9562	575839.8040	P707	2923871.1907	575844.0931	P2777	2923755.8103	575824.1948
P548	2923737.7476	575827.7506	P588	2923770.9636	575832.0383	P628	2923803.7340	575836.2702	P668	2923836.9350	575840.5544	P708	2923870.1695	575844.8435	P2778	2923754.7914	575824.9483
P549	2923740.3002	575827.1963	P589	2923773.4923	575831.4825	P629	2923806.6981	575835.7689	P669	2923839.4740	575839.9984	P709	2923872.6984	575844.2888	P2779	2923757.7546	575824.4472
P550	2923739.2815	575827.9502	P590	2923772.4711	575832.2330	P630	2923805.6769	575836.5194	P670	2923838.4554	575840.7522	P710	2923871.6773	575845.0392	P2780	2923756.7334	575825.1977
P551	2923742.2451	575827.4489	P591	2923774.9987	575831.6754	P631	2923808.2054	575835.9635	P671	2923841.4188	575840.2509	P2741	2923726.0241	575820.3498	P2781	2923759.2613	575824.6403
P552	2923741.2239	575828.1994	P592	2923773.9800	575832.4293	P632	2923807.1843	575836.7140	P672	2923840.3978	575841.0014	P2742	2923725.0052	575821.1033	P2782	2923758.2424	575825.3938
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P555	2923745.2590	575827.8364	P595	2923778.4515	575832.1227	P635	2923811.6569	575836.4090	P675	2923844.4329	575840.6385	P2745	2923729.4770	575820.7956	P2785	2923762.7134	575825.0873
P556	2923744.2404	575828.5903	P596	2923777.4303	575832.8731	P636	2923810.6358	575837.1595	P676	2923843.4143	575841.3924	P2746	2923728.4581	575821.5490	P2786	2923761.6923	575825.8378
P557	2923747.2039	575828.0890	P597	2923779.9575	575832.3155	P637	2923813.1566	575836.6027	P677	2923846.3777	575840.8911	P2747	2923730.9830	575820.9899	P2787	2923764.2080	575825.2789
P558	2923746.1828	575828.8394	P598	2923778.9389	575833.0694	P638	2923812.1354	575837.3531	P678	2923845.3565	575841.6415	P2748	2923729.9640	575821.7434	P2788	2923763.1891	575826.0324
P559	2923748.7116	575828.2836	P599	2923781.9030	575832.5682	P639	2923814.6550	575836.7945	P679	2923847.8853	575841.0857	P2749	2923732.9310	575821.2428	P2789	2923765.7197	575825.4740
P560	2923747.6904	575829.0341	P600	2923780.8819	575833.3186	P640	2923817.6364	575837.5484	P680	2923848.8642	575841.8362	P2750	2923731.9099	575821.9932	P2790	2923764.7008	575826.2275
P561	2923750.2179	575828.4765	P601	2923783.4103	575832.7628	P641	2923816.6015	575837.0473	P681	2923849.3917	575841.2786	P2751	2923734.4359	575821.4357	P2791	2923767.6649	575825.7265
P562	2923749.1993	575829.2304	P602	2923782.3892	575833.5132	P642	2923815.5804	575837.7978	P682	2923848.3731	575842.0325	P2752	2923733.4170	575822.1892	P2792	2923766.6438	575826.4770
P563	2923752.1628	575828.7291	P603	2923784.9164	575832.9557	P643	2923818.1083	575837.2419	P683	2923851.3365	575841.5312	P2753	2923735.9419	575821.6300	P2793	2923769.1712	575825.9196
P564	2923751.1417	575829.4795	P604	2923783.8978	575833.7095	P644	2923817.0872	575837.9923	P684	2923850.3154	575842.2817	P2754	2923734.9229	575822.3835	P2794	2923768.1523	575826.6731
P565	2923753.6704	575828.9238	P605	2923786.8619	575833.2083	P645	2923819.6138	575837.4347	P685	2923852.8443	575841.7253	P2755	2923737.8899	575821.8829	P2795	2923770.6786	575826.1141
P566	2923752.6492	575829.6742	P606	2923785.8407	575833.9588	P646	2923818.5952	575838.1885	P686	2923851.8231	575842.4758	P2756	2923736.8688	575822.6334	P2796	2923769.6597	575826.8676
P567	2923755.1767	575829.1167	P607	2923788.3696	575833.4030	P647	2923821.5604	575837.6874	P687	2923854.3506	575841.9187	P2757	2923739.4113	575822.0779	P2797	2923772.6238	575826.3666
P568	2923754.1581	575829.8705	P608	2923787.3484	575834.1534	P648	2923820.5392	575838.4379	P688	2923853.3320	575842.6726	P2758	2923738.3924	575822.8314	P2798	2923771.6026	575827.1171
P569	2923757.1217	575829.3892	P609	2923789.8761	575833.5959	P649	2923823.0672	575837.8820	P689	2923856.2955	575842.1703	P2759	2923740.9338	575822.2744	P2799	2923774.1301	575826.5597
P570	2923756.1005	575830.1197	P610	2923788.8575	575834.3498	P650	2923822.0460	575838.6324	P690	2923855.2743	575842.9208	P2760	2923739.9149	575823.0279	P2800	2923773.1111	575827.3132
P2801	2923782.5415	575827.6469															
P2810	2923781.5204	575828.3973															
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P2815	2923787.5004	575828.2870															
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P2818	2923787.9880	575829.2336															
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P2820	2923789.4956	575829.4282															
P2821	2923792.4597	575828.9272															
P2822	2923791.4385	575829.6776															
P2823	2923793.9659	575829.1203															
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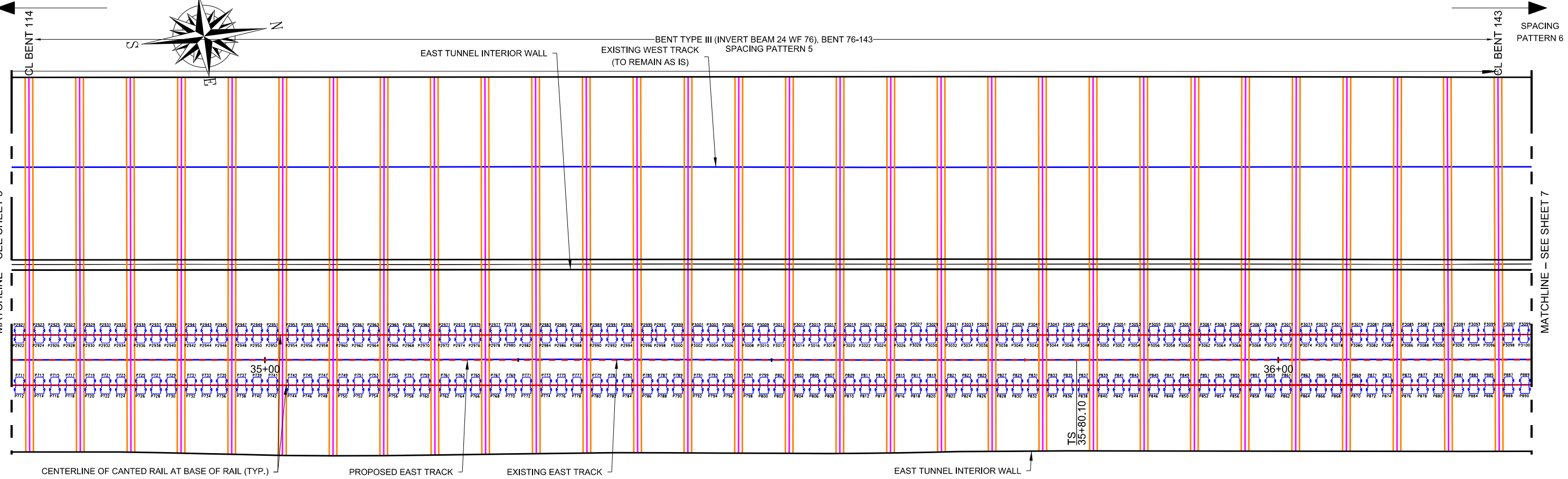
TO WORCESTER, MA

PUBLIC VERSION

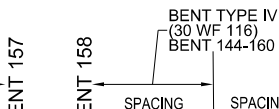
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MATCHLINE - SEE SHEET 5

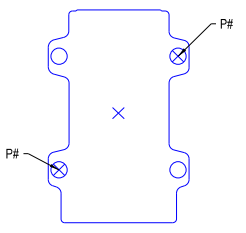
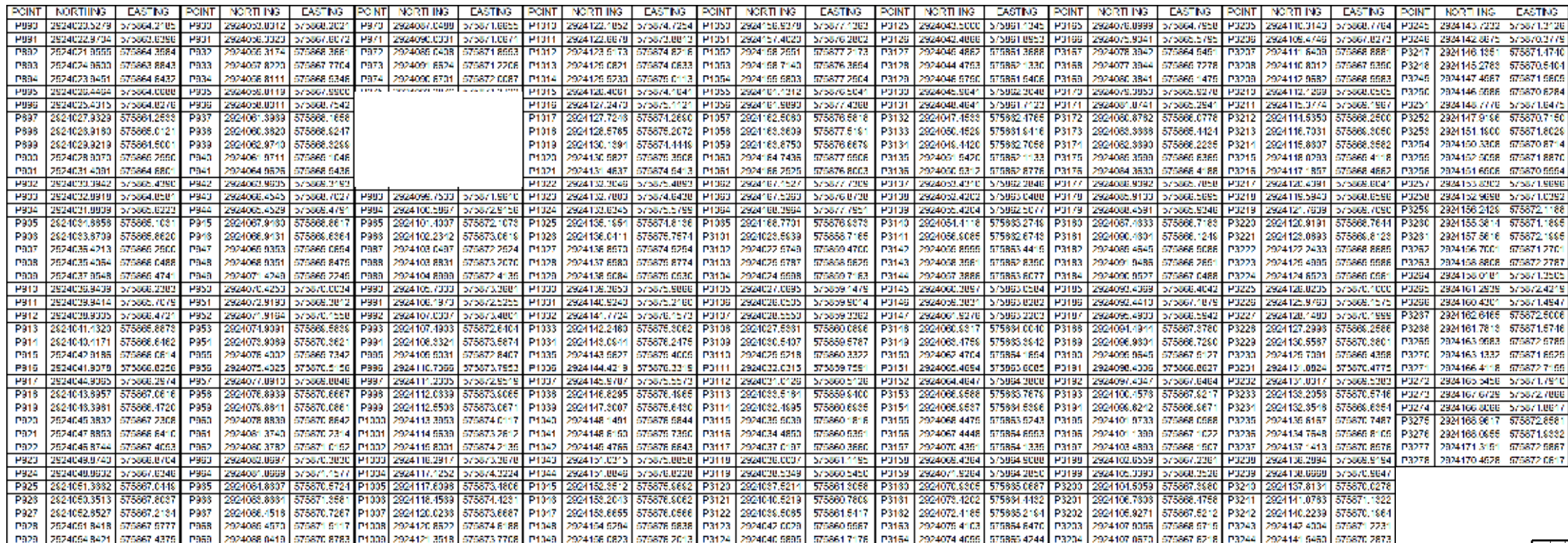
MATCHLINE - SEE SHEET 7



POINT	NORTHING	EASTING	POINT	NORTH ING	EASTING	POINT	NORTH ING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTH ING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
F711	2823874.2051	575344.1818	F751	2823907.3753	575348.7552	F791	2823940.5858	575353.0508	F831	2823973.3723	575357.2828	F871	2824006.6004	575361.5622	F911	2824039.8284	575365.8426	F951	2824072.0564	575369.1230	F991	2824105.2844	575373.4034
F712	2823875.1875	575345.2357	F752	2823908.3551	575349.5157	F792	2823941.5572	575353.8245	F832	2823972.3537	575358.0389	F872	2824007.5292	575362.3125	F912	2824039.1394	575366.5924	F952	2824073.1204	575370.8748	F992	2824106.3964	575375.1552
F713	2823876.1495	575346.2332	F753	2823909.3814	575349.9550	F793	2823942.6032	575353.2487	F833	2823973.3188	575357.5339	F873	2824008.0554	575361.7533	F913	2824039.1195	575365.8758	F953	2823925.3471	575349.9535	F993	2823956.0552	575351.1324
F714	2823877.1294	575347.3294	F754	2823910.3879	575349.1118	F794	2823943.6731	575354.9570	F834	2823974.2731	575358.7878	F874	2824010.0368	575362.4633	F914	2823994.6443	575366.1133	F954	2823974.7848	575349.4303	F994	2823961.0353	575351.6214
F715	2823877.6575	575347.9281	F755	2823910.8275	575349.2052	F795	2823944.6680	575355.3541	F835	2823975.8251	575357.7302	F875	2824010.0623	575362.0008	F915	2823995.6505	575367.8704	F955	2823965.8555	575371.1558	F995	2823960.0381	575351.4115
F716	2823878.6367	575349.6785	F756	2823909.8835	575349.9831	F796	2823945.6754	575356.1833	F836	2823976.4274	575358.1833	F876	2824008.9637	575362.7518	F916	2823996.5375	575369.6501	F956	2823962.3552	575366.6501	F996	2823962.5720	575351.8551
F717	2823879.6145	575349.6238	F757	2823910.8835	575349.9831	F797	2823946.6430	575356.6828	F837	2823976.9311	575357.9230	F877	2824010.5330	575362.1904	F917	2823996.5555	575369.1188	F957	2823962.3552	575366.6501	F997	2823962.5720	575351.8551
F718	2823879.6145	575349.6759	F758	2823911.3335	575350.1594	F798	2823947.6525	575356.4445	F838	2823977.3125	575358.6575	F878	2824010.5177	575362.0849	F918	2823996.6575	575369.5825	F958	2823962.3552	575366.6501	F998	2823962.5720	575351.8551
F719	2823880.1133	575349.3738	F759	2823912.3335	575350.6619	F799	2823948.6618	575356.8838	F839	2823978.2754	575359.1741	F879	2824011.0136	575362.3038	F919	2823997.0781	575369.8333	F959	2823962.3552	575366.6501	F999	2823962.5720	575351.8551
F720	2823880.0898	575349.6140	F760	2823912.8215	575350.9371	F800	2823949.6805	575356.6373	F840	2823979.5595	575359.9278	F880	2824012.0509	575363.1651	F920	2823998.0161	575370.7571	F960	2823962.3552	575366.6501	F000	2823962.5720	575351.8551
F721	2823882.6100	575349.6238	F761	2823913.8215	575349.8541	F801	2823949.6555	575356.0755	F841	2823980.7242	575359.9278	F881	2824012.0165	575362.6325	F921	2823998.0161	575370.7571	F961	2823962.3552	575366.6501	F001	2823962.5720	575351.8551
F722	2823883.6145	575349.3132	F762	2823914.8047	575350.6233	F802	2823949.6555	575356.0755	F842	2823980.7242	575359.9278	F882	2824012.0165	575362.6325	F922	2823998.0161	575370.7571	F962	2823962.3552	575366.6501	F002	2823962.5720	575351.8551
F723	2823884.1257	575349.5730	F763	2823915.3321	575350.9501	F803	2823950.5627	575356.3307	F843	2823981.6230	575360.3932	F883	2824012.0509	575363.1651	F923	2823998.0161	575370.7571	F963	2823962.3552	575366.6501	F003	2823962.5720	575351.8551
F724	2823885.1257	575349.6131	F764	2823916.3113	575351.8008	F804	2823950.5627	575356.3307	F844	2823981.6230	575360.3932	F884	2824012.0509	575363.1651	F924	2823998.0161	575370.7571	F964	2823962.3552	575366.6501	F004	2823962.5720	575351.8551
F725	2823886.0895	575349.6131	F765	2823916.3113	575351.8008	F805	2823950.5627	575356.3307	F845	2823981.6230	575360.3932	F885	2824012.0509	575363.1651	F925	2823998.0161	575370.7571	F965	2823962.3552	575366.6501	F005	2823962.5720	575351.8551
F726	2823887.0477	575349.7347	F766	2823917.3023	575352.9572	F806	2823951.5627	575356.3307	F846	2823982.6230	575360.3932	F886	2824013.0509	575364.1651	F926	2823998.0161	575370.7571	F966	2823962.3552	575366.6501	F006	2823962.5720	575351.8551
F727	2823888.0477	575349.7347	F767	2823918.3023	575353.9572	F807	2823952.5627	575356.3307	F847	2823983.6230	575360.3932	F887	2824014.0509	575365.1651	F927	2823998.0161	575370.7571	F967	2823962.3552	575366.6501	F007	2823962.5720	575351.8551
F728	2823889.0477	575349.7347	F768	2823919.3023	575354.9572	F808	2823953.5627	575356.3307	F848	2823984.6230	575360.3932	F888	2824015.0509	575366.1651	F928	2823998.0161	575370.7571	F968	2823962.3552	575366.6501	F008	2823962.5720	575351.8551
F729	2823890.0477	575349.7347	F769	2823920.3023	575355.9572	F809	2823954.5627	575356.3307	F849	2823985.6230	575360.3932	F889	2824016.0509	575367.1651	F929	2823998.0161	575370.7571	F969	2823962.3552	575366.6501	F009	2823962.5720	575351.8551
F730	2823891.0477	575349.7347	F770	2823921.3023	575356.9572	F810	2823955.5627	575356.3307	F850	2823986.6230	575360.3932	F890	2824017.0509	575368.1651	F930	2823998.0161	575370.7571	F970	2823962.3552	575366.6501	F010	2823962.5720	575351.8551
F731	2823892.0477	575349.7347	F771	2823922.3023	575357.9572	F811	2823956.5627	575356.3307	F851	2823987.6230	575360.3932	F891	2824018.0509	575369.1651	F931	2823998.0161	575370.7571	F971	2823962.3552	575366.6501	F011	2823962.5720	575351.8551
F732	2823893.0477	575349.7347	F772	2823923.3023	575358.9572	F812	2823957.5627	575356.3307	F852	2823988.6230	575360.3932	F892	2824019.0509	575370.1651	F932	2823998.0161	575370.7571	F972	2823962.3552	575366.6501	F012	2823962.5720	575351.8551
F733	2823894.0477	575349.7347	F773	2823924.3023	575359.9572	F813	2823958.5627	575356.3307	F853	2823989.6230	575360.3932	F893	2824020.0509	575371.1651	F933	2823998.0161	575370.7571	F973	2823962.3552	575366.6501	F013	2823962.5720	575351.8551
F734	2823895.0477	575349.7347	F774	2823925.3023	575360.9572	F814	2823959.5627	575356.3307	F854	2823990.6230	575360.3932	F894	2824021.0509	575372.1651	F934	2823998.0161	575370.7571	F974	2823962.3552	575366.6501	F014	2823962.5720	575351.8551
F735	2823896.0477	575349.7347	F775	2823926.3023	575361.9572	F815	2823960.5627	575356.3307	F855	2823991.6230	575360.3932	F895	2824022.0509	575373.1651	F935	2823998.0161	575370.7571	F975	2823962.3552	575366.6501	F015	2823962.5720	575351.8551
F736	2823897.0477	575349.7347	F776	2823927.3023	575362.9572	F816	2823961.5627	575356.3307	F856	2823992.6230	575360.3932	F896	2824023.0509	575374.1651	F936	2823998.0161	575370.7571	F976	2823962.3552	575366.6501	F016	2823962.5720	575351.8551
F737	2823898.0477	575349.7347	F777	2823928.3023	575363.9572	F817	2823962.5627	575356.3307	F857	2823993.6230	575360.3932	F897	2824024.0509	575375.1651	F937	2823998.0161	575370.7571	F977	2823962.3552	575366.6501	F017	2823962.5720	575351.8551
F738	2823899.0477	575349.7347	F778	2823929.3023	575364.9572	F818	2823963.5627	575356.3307	F858	2823994.6230	575360.3932	F898	2824025.0509	575376.1651	F938	2823998.0161	575370.7571	F978	2823962.3552	575366.6501	F018	2823962.5720	575351.8551
F739	2823900.0477	575349.7347	F779	2823930.3023	575365.9572	F819	2823964.5627	575356.3307	F859	2823995.6230	575360.3932	F899	2824026.0509	575377.1651	F939	2823998.0161	575370.7571	F979	2823962.3552	575366.6501	F019	2823962.5720	575351.8551
F740	2823901.0477	575349.7347	F780	2823931.3023	575366.9572	F820	2823965.5627	575356.3307	F860	2823996.6230	575360.3932	F900	2824027.0509	575378.1651	F940	2823998.0161	575370.7571	F980	2823962.3552	575366.6501	F020	2823962.5720	575351.8551
F741	2823902.0477	575349.7347	F781	2823932.3023	575367.9572	F821	2823966.5627	575356.3307	F861	2823997.6230	575360.3932	F901	2824028.0509	575379.1651	F941	2823998.0161	575370.7571	F981	2823962.3552	575366.6501	F021	2823962.5720	575351.8551
F742	2823903.0477	575349.7347	F782	2823933.3023	575368.9572	F822	2823967.5627	575356.3307	F862	2823998.6230	575360.3932	F902	2824029.0509	575380.1651	F942	2823998.0161	575370.7571	F982	2823962.3552	575366.6501	F022		



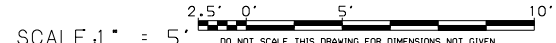
MATCHLINE -- SEE SHEET 8



TYPICAL BOLT CENTER
POINT LAYOUT LOCATION
NORTHWEST AND SOUTHEAST BOLTS
EXCEPT WHERE OTHERWISE NOTED

SPACING PATTERN TABLE		
PATTERN	BETWEEN FASTENERS	SPACING OVER INVERT BEAMS
5	18.625"	22.75"
6	18"	24"
7	18"	24"
8	15.75"	25.4"
9	14.938"	29"
10	14.938"	29"
11	14.938"	29"
12	18.25"	23.5"

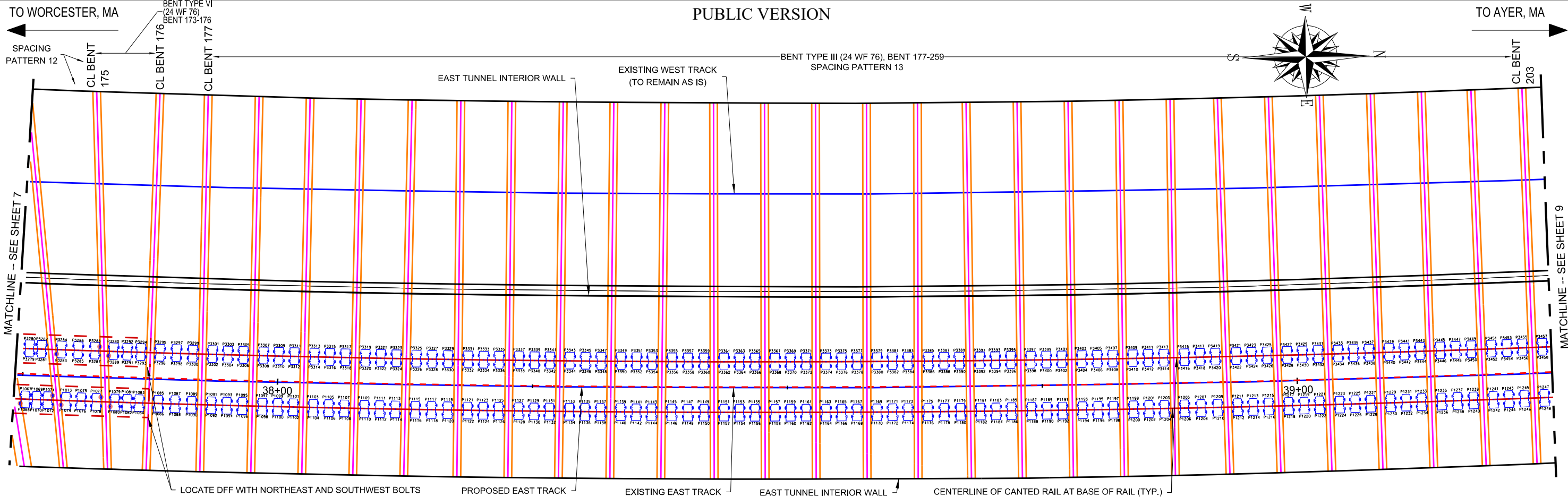
	EXISTING TRACK		EXISTING EDGE OF INVERT
	PROPOSED TRACK		BEAM FLANGE
	TRACK TO BE LINED/SHIFTED		PROPOSED DFF
	EXISTING SURFACE FEATURES		'NO BOLT' LOCATION
	EXISTING TUNNEL FEATURES		
	CL EXISTING INVERT BEAM		
	PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)		



NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OPERATING DIVISION
DESIGNER OF THE QUOTE ENGINEERING AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION	
LOCATION			G&W PW, GARDNER BRANCH SUBDIV	
TITLE				
DIRECT FIXATION PLANS SHEET 7 OF 14				
DGN	DD	FIG No.	D3120	DRN
FILE NO.		MP 0.6-2.0		
DWN	BC	FILE NO.	TRK1114427	DRAWING NUMBER
CHK	NB	DATE	02-09-2024	TB-2022-11
CADD FILE:	#FILE#			
LAST SAVED:	#LASTSAVEDDATE#		SHEET 17 OF 45	

PUBLIC VERSION



POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING			
P1066	2924169.8303	575877.8618	P1106	2924200.8718	575879.3209	P1146	2924234.4444	575880.3473	P1186	2924267.1794	575880.8099	P1226	2924301.4882	575881.1166	P1266	2924334.8422	575879.8101	P1306	2924368.5422	575879.8101	P1346	2924402.1942	575879.8101	P1386	2924435.8422	575879.8101
P1067	2924171.217	575877.8644	P1107	2924202.2942	575879.3235	P1147	2924236.8861	575879.5233	P1187	2924269.8562	575879.8459	P1227	2924303.9111	575879.8101	P1267	2924337.1794	575879.8101	P1307	2924371.4882	575879.8101	P1347	2924405.1942	575879.8101	P1387	2924438.5422	575879.8101
P1068	2924173.8229	575877.8669	P1108	2924204.367	575879.3261	P1148	2924238.9340	575880.3505	P1188	2924271.9041	575880.8127	P1228	2924305.0080	575880.8127	P1268	2924338.1794	575879.8101	P1308	2924372.4882	575879.8101	P1348	2924406.1942	575879.8101	P1388	2924440.5422	575879.8101
P1069	2924175.2927	575877.8694	P1109	2924206.447	575879.3287	P1149	2924240.0080	575880.3530	P1189	2924273.9779	575880.8150	P1229	2924311.0111	575880.8150	P1269	2924344.1794	575879.8101	P1309	2924377.4882	575879.8101	P1349	2924411.1942	575879.8101	P1389	2924445.5422	575879.8101
P1070	2924177.6829	575877.8719	P1110	2924208.522	575879.3312	P1150	2924242.0672	575880.3552	P1190	2924275.0371	575880.8172	P1230	2924315.0222	575880.8172	P1270	2924348.1794	575879.8101	P1310	2924381.4882	575879.8101	P1350	2924415.1942	575879.8101	P1390	2924449.5422	575879.8101
P1071	2924179.2927	575877.8749	P1111	2924210.602	575879.3337	P1151	2924244.112	575880.3574	P1191	2924277.0871	575880.8202	P1231	2924317.0371	575880.8202	P1271	2924350.1794	575879.8101	P1311	2924383.4882	575879.8101	P1351	2924418.1942	575879.8101	P1391	2924452.5422	575879.8101
P1072	2924181.2075	575877.8779	P1112	2924212.682	575879.3362	P1152	2924246.162	575880.3596	P1192	2924279.1571	575880.8224	P1232	2924319.0471	575880.8224	P1272	2924352.1794	575879.8101	P1312	2924385.4882	575879.8101	P1352	2924420.1942	575879.8101	P1392	2924454.5422	575879.8101
P1073	2924183.2075	575877.8809	P1113	2924214.762	575879.3387	P1153	2924248.242	575880.3618	P1193	2924281.2371	575880.8246	P1233	2924321.1271	575880.8246	P1273	2924354.1794	575879.8101	P1313	2924387.4882	575879.8101	P1353	2924422.1942	575879.8101	P1393	2924456.5422	575879.8101
P1074	2924185.8808	575877.8839	P1114	2924216.842	575879.3412	P1154	2924250.322	575880.3640	P1194	2924283.3121	575880.8266	P1234	2924323.1371	575880.8266	P1274	2924356.1794	575879.8101	P1314	2924389.4882	575879.8101	P1354	2924424.1942	575879.8101	P1394	2924458.5422	575879.8101
P1075	2924187.8808	575877.8869	P1115	2924218.922	575879.3437	P1155	2924252.402	575880.3662	P1195	2924285.3921	575880.8288	P1235	2924325.1471	575880.8288	P1275	2924358.1794	575879.8101	P1315	2924391.4882	575879.8101	P1355	2924426.1942	575879.8101	P1395	2924460.5422	575879.8101
P1076	2924189.8808	575877.8899	P1116	2924220.002	575879.3462	P1156	2924254.482	575880.3684	P1196	2924287.4721	575880.8310	P1236	2924327.1571	575880.8310	P1276	2924360.1794	575879.8101	P1316	2924393.4882	575879.8101	P1356	2924428.1942	575879.8101	P1396	2924462.5422	575879.8101
P1077	2924191.8808	575877.8929	P1117	2924222.082	575879.3487	P1157	2924256.562	575880.3706	P1197	2924289.5521	575880.8332	P1237	2924329.1671	575880.8332	P1277	2924362.1794	575879.8101	P1317	2924395.4882	575879.8101	P1357	2924430.1942	575879.8101	P1397	2924464.5422	575879.8101
P1078	2924193.8808	575877.8959	P1118	2924224.162	575879.3512	P1158	2924258.642	575880.3728	P1198	2924291.6321	575880.8354	P1238	2924331.1771	575880.8354	P1278	2924364.1794	575879.8101	P1318	2924397.4882	575879.8101	P1358	2924432.1942	575879.8101	P1398	2924466.5422	575879.8101
P1079	2924195.8808	575877.8989	P1119	2924226.242	575879.3537	P1159	2924260.722	575880.3750	P1199	2924293.7121	575880.8376	P1239	2924333.1871	575880.8376	P1279	2924366.1794	575879.8101	P1319	2924399.4882	575879.8101	P1359	2924434.1942	575879.8101	P1399	2924468.5422	575879.8101
P1080	2924197.8808	575877.9019	P1120	2924228.322	575879.3562	P1160	2924262.802	575880.3772	P1200	2924295.7921	575880.8398	P1240	2924335.1971	575880.8398	P1280	2924368.1794	575879.8101	P1320	2924401.4882	575879.8101	P1360	2924436.1942	575879.8101	P1400	2924470.5422	575879.8101
P1081	2924201.8808	575877.9049	P1121	2924230.402	575879.3587	P1161	2924264.882	575880.3794	P1201	2924297.7821	575880.8420	P1241	2924337.2071	575880.8420	P1281	2924370.1794	575879.8101	P1321	2924403.4882	575879.8101	P1361	2924438.1942	575879.8101	P1401	2924472.5422	575879.8101
P1082	2924203.8808	575877.9079	P1122	2924232.482	575879.3612	P1162	2924266.962	575880.3816	P1202	2924299.8621	575880.8442	P1242	2924339.2171	575880.8442	P1282	2924372.1794	575879.8101	P1322	2924405.4882	575879.8101	P1362	2924440.1942	575879.8101	P1402	2924474.5422	575879.8101
P1083	2924205.8808	575877.9109	P1123	2924234.562	575879.3637	P1163	2924270.042	575880.3838	P1203	2924301.9421	575880.8464	P1243	2924341.2271	575880.8464	P1283	2924374.1794	575879.8101	P1323	2924407.4882	575879.8101	P1363	2924442.1942	575879.8101	P1403	2924476.5422	575879.8101
P1084	2924207.8808	575877.9139	P1124	2924236.642	575879.3662	P1164	2924272.122	575880.3860	P1204	2924303.0221	575880.8486	P1244	2924343.2371	575880.8486	P1284	2924376.1794	575879.8101	P1324	2924409.4882	575879.8101	P1364	2924444.1942	575879.8101	P1404	2924478.5422	575879.8101
P1085	2924209.8808	575877.9169	P1125	2924238.722	575879.3687	P1165	2924274.202	575880.3882	P1205	2924305.1021	575880.8508	P1245	2924345.2471	575880.8508	P1285	2924378.1794	575879.8101	P1325	2924411.4882	575879.8101	P1365	2924446.1942	575879.8101	P1405	2924480.5422	575879.8101
P1086	2924211.8808	575877.9199	P1126	2924240.802	575879.3712	P1166	2924276.282	575880.3904	P1206	2924307.1821	575880.8530	P1246	2924347.2671	575880.8530	P1286	2924380.1794	575879.8101	P1326	2924413.4882	575879.8101	P1366	2924448.1942	575879.8101	P1406	2924482.5422	575879.8101
P1087	2924213.8808	575877.9229	P1127	2924242.882	575879.3737	P1167	2924278.362	575880.3926	P1207	2924309.2621	575880.8552	P1247	2924349.2771	575880.8552	P1287	2924382.1794	575879.8101	P1327	2924415.4882	575879.8101	P1367	2924450.1942	575879.8101	P1407	2924484.5422	575879.8101
P1088	2924215.8808	575877.9259	P1128	2924244.962	575879.3762	P1168	2924280.442	575880.3948	P1208	2924311.3421	575880.8574	P1248	2924351.2921	575880.8574	P1288	2924384.1794	575879.8101	P1328	2924417.4882	575879.8101	P1368	2924452.1942	575879.8101	P1408	2924486.5422	575879.8101
P1089	2924217.8808	575877.9289	P1129	2924247.042	575879.3787	P1169	2924282.522	575880.3970	P1209	2924313.4221	575880.8596	P1249	2924353.3071	575880.8596	P1289	2924386.1794	575879.8101	P1329	2924419.4882	575879.8101	P1369	2924454.1942	575879.8101	P1409	2924488.5422	575879.8101
P1090	2924219.8808	575877.9319	P1130	2924249.122	575879.3812	P1170	2924284.602	575880.4002	P1210	2924315.5021	575880.8618	P1250	2924355.3171	575880.8618	P1290	2924388.1794	575879.8101	P1330	2924421.4882	575879.8101	P1370	2924456.1942	575879.8101	P1410	2924490.5422	575879.8101
P1091	2924221.8808	575877.9349	P1131	2924251.202	575879.3837	P1171	2924286.682	575880.4024	P1211	2924317.5821	575880.8640	P1251	2924357.3371	575880.8640	P1291	2924390.1794	575879.8101	P1331	2924423.4882	575879.8101	P1371	2924458.1942	575879.8101	P1411	2924492.5422	575879.8101
P1092	2924223.8808	575877.9379	P1132	2924253.282	575879.3862	P1172	2924288.762	575880.4046	P1212	2924319.6621	575880.8662	P1252	2924359.3571	575880.8662	P1292	2924392.1794	575879.8101	P1332	2924425.4882	575879.8101	P1372	2924460.1942	575879.8101	P1412	2924494.5422	575879.8101
P1093	2924225.8808	575877.9409	P1133	2924255.362	575879.3887	P1173	2924290.842	575880.4068	P1213	2924321.7421	575880.8684	P1253	2924361.3771	575880.8684	P1293	2924394.1794	575879.8101	P1333	2924427.4882	575879.8101	P1373	2924462.1942	575879.8101	P1413	2924496.5422	575879.8101
P1094	2924227.8808	575877.9439	P1134	2924257.442	575879.3912	P1174	2924292.922	575880.4090	P1214	2924323.8221	575880.8706	P1254	2924363.3971	575880.8706	P1294	2924396.1794	575879.8101	P1334	2924429.4882	575879.8101	P1374	2924464.1942	575879.8101	P1414	2924498.5422	575879.8101
P1095	2924229.8808	575877.9469	P1135	2924259.522	575879.3937	P1175	2924294.002	575880.4112	P1215	2924325.9021	575880.8728	P1255	2924365.4171	575880.8728	P1295	2924398.1794	575879.8101	P1335	2924431.4882	575879.8101	P1375	2924466.1942	575879.8101	P1415	2924500.5422	575879.8101
P1096	2924231.8808	575877.9499	P1136	2924261.602	575879.3962	P1176	2924296.082	575880.4134	P1216	2924327.9821	575880.8750	P1256	2924367.4371	575880.8750	P1296	2924400.1794	575879.8101	P1336	2924433.4882	575879.8101	P1376	2924468.1942	575879.8101	P1416	2924502.5422	575879.8101
P1097	2924233.8808	575877.9529	P1137	2924263.682	575879.3987	P1177	2924298.162	575880.4156	P1217	2924329.0621	5															

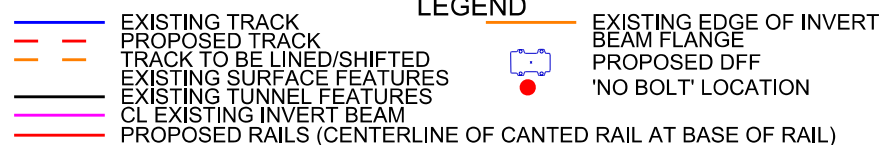
EAST TUNNEL INTERIOR WALL

55
MATCH LINE -- SEE SHEET 10

EAST TUNNEL INTERIOR WALL

A diagram of a rectangular plate with rounded corners and four circular holes at the corners. The top-right hole is labeled 'P#1' and the bottom-left hole is labeled 'P#2'.

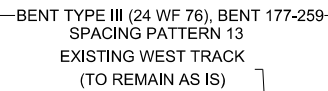
NORTHWEST AND SOUTHEAST BOLTS
EXCEPT WHERE OTHERWISE NOTED



SCALE: 1" = 5' DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN



REV	BY	DATE	DESCRIPTION	
LOCATION				
G&W PW, GARDNER BRANCH SUBDIV				
TITLE				
DIRECT FIXATION PLANS SHEET 9 OF 14				
JUN	DD	PTD No.	D3120	MP
JUN	BC	FILE No.	TRK1114427	DRAWING NUMBER
CK	NB	DATE	02-09-2024	1B-2022-11
CADD FILE:		*RELEAS*		SHEET
		NOT TO SCALE		19 OF 4



MATCHLINE -- SEE SHEET 11

EAST TUNNEL INTERIOR WALL

**TYPICAL BOLT CENTER
POINT LAYOUT LOCATION**

NORTHWEST AND SOUTHEAST BOLTS
EXCEPT WHERE OTHERWISE NOTED

LEGEND

	EXISTING TRACK		EXISTING EDGE OF INVERT
	PROPOSED TRACK		BEAM FLANGE
	TRACK TO BE LINED/SHIFTED		PROPOSED DFF
	EXISTING SURFACE FEATURES		'NO BOLT' LOCATION
	EXISTING TUNNEL FEATURES		
	CL EXISTING INVERT BEAM		
	PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)		



REV	BY	DATE	DESCRIPTION	
LOCATION				
G&W PW, GARDNER BRANCH SUBDIV				
TITLE				
DIRECT FIXATION PLANS SHEET 10 OF 14				
JGN	DD	PID No.	D3120	FILE POST
		TRN		MP 0.6-2.0
JWN	BC	FILE No.	TRK1114427	DRAWING NUMBER
		DATE	02-09-2024	TB-2022-11
CADD FILE:		*FILES*		
LAST SAVED:		*LAST SAVED DATE*		
			SHEET 20 OF 45	

TO WORCESTER, MA

PUBLIC VERSION

SPACING PATTERN 14

TO AYER, MA

1953 AS DESIGNED CL BENT 292
AT CL TUNNEL
STA 43+65.00SPACING
PATTERN 16

MATCHLINE -- SEE SHEET 10

MATCHLINE -- SEE SHEET 12

CENTERLINE OF CANTED RAIL AT BASE OF RAIL (TYP.)

PROPOSED EAST TRACK

EXISTING EAST TRACK

EAST TUNNEL INTERIOR WALL

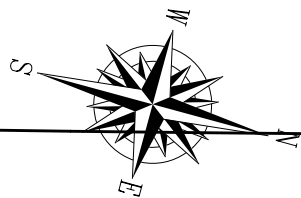
CL BENT 292 AT
CL EAST TRACK
STA 43+70.09

POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING			
P1800	2924618.3178	575850.8996	P1840	2924618.4375	575846.1081	P1880	2924618.5463	575839.8888	P1920	2924717.0307	575837.8814	P1960	2924717.0307	575837.8814	P2000	2924717.0307	575837.8814	P2040	2924717.0307	575837.8814	P2080	2924717.0307	575837.8814			
P1801	2924621.0210	575850.8996	P1841	2924621.0210	575844.7960	P1881	2924621.0210	575839.8888	P1921	2924719.6873	575831.1419	P1961	2924719.6873	575831.1419	P2001	2924719.6873	575831.1419	P2041	2924719.6873	575831.1419	P2081	2924719.6873	575831.1419			
P1802	2924620.2896	575851.7201	P1842	2924620.2896	575845.8267	P1882	2924620.2896	575839.8888	P1922	2924721.9105	575831.5375	P1962	2924721.9105	575831.5375	P2002	2924721.9105	575831.5375	P2042	2924721.9105	575831.5375	P2082	2924721.9105	575831.5375			
P1803	2924620.2896	575851.7201	P1843	2924620.2896	575845.8267	P1883	2924620.2896	575839.8888	P1923	2924722.9139	575830.5414	P1963	2924722.9139	575830.5414	P2003	2924722.9139	575830.5414	P2043	2924722.9139	575830.5414	P2083	2924722.9139	575830.5414			
P1804	2924620.2896	575851.7201	P1844	2924620.2896	575845.8267	P1884	2924620.2896	575839.8888	P1924	2924723.9173	575829.5453	P1964	2924723.9173	575829.5453	P2004	2924723.9173	575829.5453	P2044	2924723.9173	575829.5453	P2084	2924723.9173	575829.5453			
P1805	2924620.2896	575851.7201	P1845	2924620.2896	575845.8267	P1885	2924620.2896	575839.8888	P1925	2924724.9207	575828.5493	P1965	2924724.9207	575828.5493	P2005	2924724.9207	575828.5493	P2045	2924724.9207	575828.5493	P2085	2924724.9207	575828.5493			
P1806	2924620.2896	575851.7201	P1846	2924620.2896	575845.8267	P1886	2924620.2896	575839.8888	P1926	2924725.9241	575827.5533	P1966	2924725.9241	575827.5533	P2006	2924725.9241	575827.5533	P2046	2924725.9241	575827.5533	P2086	2924725.9241	575827.5533			
P1807	2924620.2896	575851.7201	P1847	2924620.2896	575845.8267	P1887	2924620.2896	575839.8888	P1927	2924726.9275	575826.5573	P1967	2924726.9275	575826.5573	P2007	2924726.9275	575826.5573	P2047	2924726.9275	575826.5573	P2087	2924726.9275	575826.5573			
P1808	2924620.2896	575851.7201	P1848	2924620.2896	575845.8267	P1888	2924620.2896	575839.8888	P1928	2924727.9309	575825.5613	P1968	2924727.9309	575825.5613	P2008	2924727.9309	575825.5613	P2048	2924727.9309	575825.5613	P2088	2924727.9309	575825.5613			
P1809	2924620.2896	575851.7201	P1849	2924620.2896	575845.8267	P1889	2924620.2896	575839.8888	P1929	2924728.9343	575824.5653	P1969	2924728.9343	575824.5653	P2009	2924728.9343	575824.5653	P2049	2924728.9343	575824.5653	P2089	2924728.9343	575824.5653			
P1810	2924620.2896	575851.7201	P1850	2924620.2896	575845.8267	P1890	2924620.2896	575839.8888	P1930	2924729.9377	575823.5693	P1970	2924729.9377	575823.5693	P2010	2924729.9377	575823.5693	P2050	2924729.9377	575823.5693	P2090	2924729.9377	575823.5693			
P1811	2924620.2896	575851.7201	P1851	2924620.2896	575844.1431	P1891	2924620.2896	575839.8888	P1931	2924730.9411	575822.5733	P1971	2924730.9411	575822.5733	P2011	2924730.9411	575822.5733	P2051	2924730.9411	575822.5733	P2091	2924730.9411	575822.5733			
P1812	2924620.2896	575851.7201	P1852	2924620.2896	575845.8267	P1892	2924620.2896	575839.8888	P1932	2924731.9445	575821.5773	P1972	2924731.9445	575821.5773	P2012	2924731.9445	575821.5773	P2052	2924731.9445	575821.5773	P2092	2924731.9445	575821.5773			
P1813	2924620.2896	575851.7201	P1853	2924620.2896	575845.8267	P1893	2924620.2896	575839.8888	P1933	2924732.9479	575820.5813	P1973	2924732.9479	575820.5813	P2013	2924732.9479	575820.5813	P2053	2924732.9479	575820.5813	P2093	2924732.9479	575820.5813			
P1814	2924620.2896	575851.7201	P1854	2924620.2896	575844.1431	P1894	2924620.2896	575839.8888	P1934	2924733.9513	575819.5853	P1974	2924733.9513	575819.5853	P2014	2924733.9513	575819.5853	P2054	2924733.9513	575819.5853	P2094	2924733.9513	575819.5853			
P1815	2924620.2896	575851.7201	P1855	2924620.2896	575845.8267	P1895	2924620.2896	575839.8888	P1935	2924734.9547	575818.5893	P1975	2924734.9547	575818.5893	P2015	2924734.9547	575818.5893	P2055	2924734.9547	575818.5893	P2095	2924734.9547	575818.5893			
P1816	2924620.2896	575851.7201	P1856	2924620.2896	575845.8267	P1896	2924620.2896	575839.8888	P1936	2924735.9581	575817.5933	P1976	2924735.9581	575817.5933	P2016	2924735.9581	575817.5933	P2056	2924735.9581	575817.5933	P2096	2924735.9581	575817.5933			
P1817	2924620.2896	575851.7201	P1857	2924620.2896	575845.8267	P1897	2924620.2896	575839.8888	P1937	2924736.9615	575816.5973	P1977	2924736.9615	575816.5973	P2017	2924736.9615	575816.5973	P2057	2924736.9615	575816.5973	P2097	2924736.9615	575816.5973			
P1818	2924620.2896	575851.7201	P1858	2924620.2896	575845.8267	P1898	2924620.2896	575839.8888	P1938	2924737.9649	575815.6013	P1978	2924737.9649	575815.6013	P2018	2924737.9649	575815.6013	P2058	2924737.9649	575815.6013	P2098	2924737.9649	575815.6013			
P1819	2924620.2896	575851.7201	P1859	2924620.2896	575845.8267	P1899	2924620.2896	575839.8888	P1939	2924738.9683	575814.6053	P1979	2924738.9683	575814.6053	P2019	2924738.9683	575814.6053	P2059	2924738.9683	575814.6053	P2099	2924738.9683	575814.6053			
P1820	2924630.8590	575849.9764	P1859	2924683.6506	575842.8709	P1889	2924696.5404	575836.1769	P1939	2924729.4177	575820.9260	P1979	2924781.7236	575821.2299	P2050	2924645.6265	575842.1470	P2090	2924676.5570	575835.7368	P2090	2924711.0153	575820.8794	P3870	2924713.8276	575821.3014
P1820	2924630.236	575849.0006	P1860	2924682.9282	575843.9149	P1900	2924695.8721	575837.2273	P1940	2924728.7236	575820.8260	P1980	2924728.7236	575821.3314	P3851	2924647.8308	575840.8435	P3891	2924678.7891	575837.3972	P3931	2924713.6575	575827.3905	P3971	2924744.9440	575819.9511
P1821	2924630.2896	575849.1730	P1861	2924683.6013	575843.4563	P1901	2924695.8816	575837.3816	P1941	2924730.8810	575820.8910	P1981	2924730.8810	575821.3861	P3852	2924647.8803	575841.9119	P3892	2924678.8308	575837.4377	P3932	2924714.8920	575828.4643	P3972	2924745.2958	575821.0151
P1822	2924631.6063	575849.7170	P1862	2924683.8731	575843.5355	P1902	2924697.2174	575836.8146	P1942	2924731.8833	575820.9510	P1982	2924731.8833	575821.4461	P3853	2924648.9763	575841.9765	P3893	2924679.8771	575837.5947	P3933	2924715.703	575827.5637	P3973	2924747.9108	575816.0159
P1823	2924633.8378	575848.4472	P1863	2924685.0805	575843.7063	P1903	2924699.0907	575836.4513	P1943	2924732.8866	575820.9521	P1983	2924732.8866	575821.4461	P3854	2924649.0290	575841.9817	P3894	2924679.9841	575837.6364	P3934	2924716.4054	575828.1165	P3974	2924747.2238	575822.5814
P1824	2924633.0500	575849.4724	P1864	2924688.3530	575843.2429	P1904	2924699.2890	575836.5102	P1944	2924733.8829	575820.9731	P1984	2924733.8829	575821.4683	P3855	2924651.2809	575840.9995	P3895	2924684.2520	575836.8665	P3935	2924716.6420	575826.7382	P3975	2924748.3777	575818.1365
P1825	2924633.8562	575848.3828	P1865	2924688.5565	575843.3142	P1905	2924701.4732	575835.1367	P1945	2924734.8869	575820.9782	P1985	2924734.8869	575821.4734	P3856	2924650.6221	575841.2201	P3896	2924685.9315	575837.7305	P3936	2924717.9386	575827.7688	P3976	2924749.6913	575819.2011
P1826	2924633.7225	575849.1089	P1866	2924688.8728	575843.3861	P1906	2924704.0069	575836.1869	P1946	2924735.8866	575820.9430	P1986	2924735.8866	575821.4381	P3857	2924650.7437	575840.9993	P3897	2924686.7203	575836.8866	P3937	2924718.9763	575826.3023	P3977	2924750.1344	575816.7825
P1827	2924637.3498	575847.4151	P1867	2924670.5083	575843.5291	P1907	2924702.3469	575836.1869	P1947	2924735.8866	575820.9430	P1987	2924735.8866	575821.4381	P3858	2924652.0252	575840.9494	P3898	2924686.0296	575836.4260	P3938	2924717.0734	575827.3567	P3978	2924750.688	575816.8188
P1828	2924636.6566	575848.8416	P1868	2924668.7807	575842.5680	P1908	2924702.2367	575835.8665	P1948	2924735.8866	575820.9430	P1988	2924735.8866	575821.4381	P3859	2924654.6888	575839.5494	P3899	2924687.2075	575833.0775	P3939	2924720.0182	575823.8716	P3979	2924752.0988	575818.3131
P1829	2924638.8208	575																								

TO WORCESTER, MA

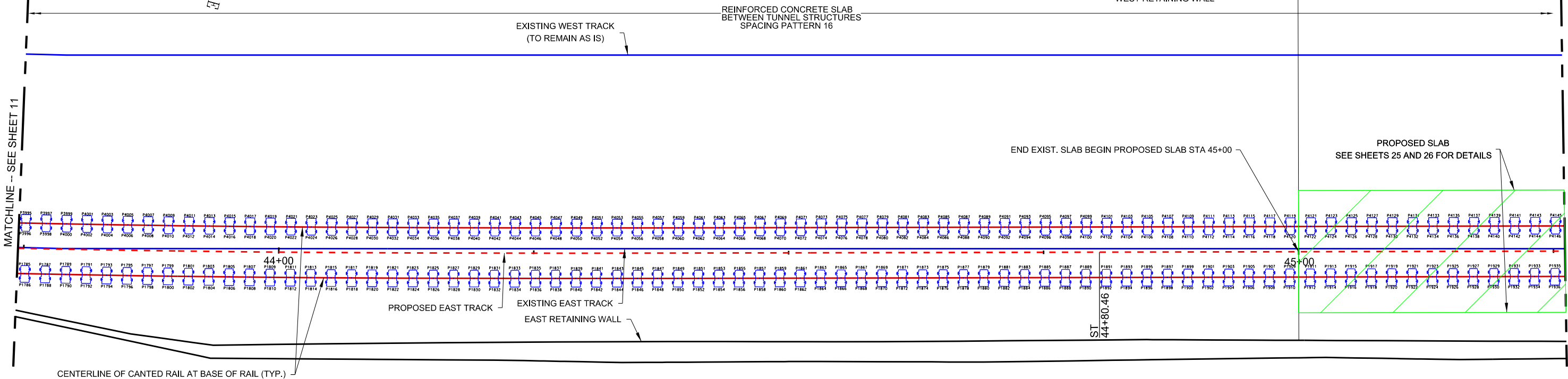
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TO AYER, MA



MATCHLINE -- SEE SHEET 11

MATCHLINE -- SEE SHEET 13

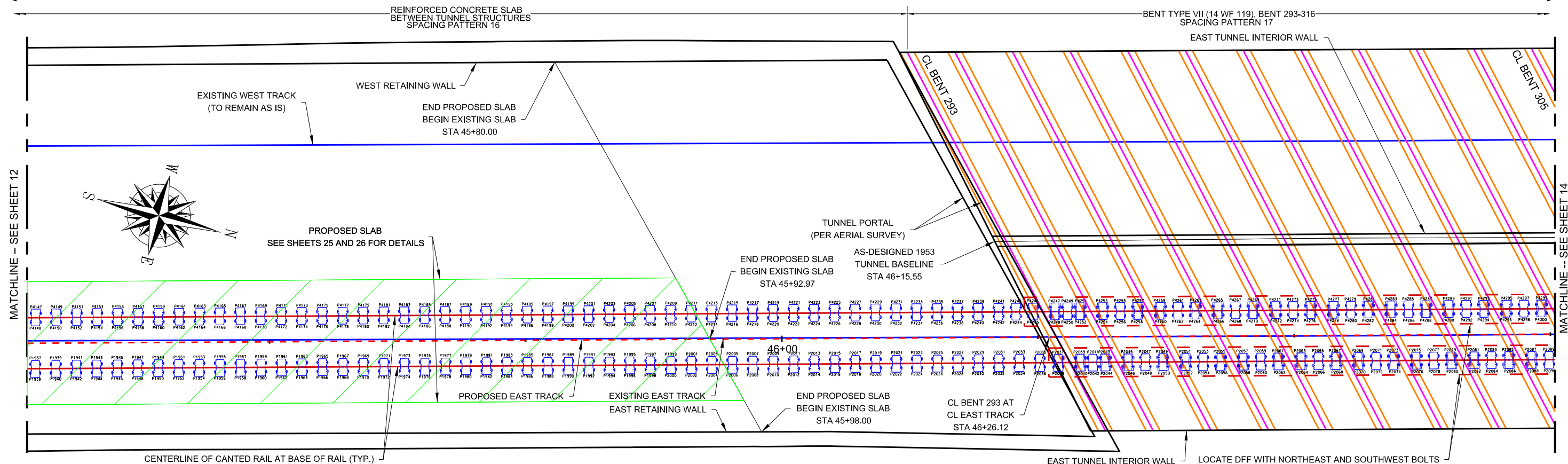


POINT	NOR	HNC	EASTING	POINT	NOR	HNC	EASTING	POINT	NOR	HNC	EASTING	POINT	NOR	HNC	EASTING	POINT	NOR	HNC	EASTING	POINT	NOR	HNC	EASTING
P1786	2924766.8058	575820.8725	P1806	2924805.5082	575810.7890	P1906	2924844.1619	575800.2831	P1006	2924882.7364	575789.6898	P4003	2924774.0335	575813.0300	P4043	2924812.7077	575802.8358	P4083	2924851.2907	575792.2853	P1123	2924888.8653	575781.7021
P1787	2924769.4258	575818.3133	P1827	2924808.1742	575808.1945	P1927	2924846.7542	575798.6743	P1027	2924885.3287	575788.0611	P4004	2924773.3508	575814.1038	P4044	2924811.2045	575803.8133	P4084	2924850.6238	575793.3627	P1124	2924891.1981	575781.7129
P1788	2924768.7503	575820.3854	P1828	2924807.5175	575810.2783	P1928	2924845.0906	575798.7539	P1028	2924884.8862	575789.1707	P4005	2924775.9709	575812.5381	P4045	2924811.48138	575802.3149	P4085	2924851.2195	575791.7581	P1125	2924891.1286	575792.2503
P1789	2924771.3701	575818.8243	P1829	2924810.1097	575808.6725	P1929	2924846.8829	575788.1451	P1029	2924887.2574	575787.5819	P4006	2924775.2691	575813.8106	P4046	2924811.3558	575803.3981	P4086	2924852.5623	575792.8335	P1126	2924891.7217	575793.6438
P1790	2924770.8648	575819.8985	P1830	2924809.4555	575808.7579	P1930	2924845.0193	575798.2248	P1030	2924886.5839	575788.6416	P4007	2924777.8079	575812.0402	P4047	2924811.6583	575801.7890	P4087	2924855.1482	575791.2270	P1127	2924891.0956	575781.7211
P1791	2924773.3139	575818.3334	P1831	2924812.0282	575808.1808	P1931	2924850.6116	575797.6160	P1031	2924888.1862	575787.0328	P4008	2924777.2572	575813.1154	P4048	2924811.5011	575802.8684	P4088	2924854.4810	575792.3044	P1128	2924891.5615	575781.1146
P1792	2924772.8384	575819.4056	P1832	2924811.3627	575808.2405	P1932	2924846.9431	575798.6968	P1032	2924888.3228	575788.1124	P4009	2924779.3463	575811.5437	P4049	2924811.6468	575801.2858	P4089	2924857.0789	575790.6678	P1129	2924891.9813	575781.1820
P1793	2924775.2572	575817.8405	P1833	2924813.9688	575807.6375	P1933	2924852.5403	575797.0968	P1033	2924891.1149	575788.6058	P4010	2924779.1726	575812.8171	P4050	2924811.8314	575802.3430	P4090	2924858.4087	575791.7752	P1130	2924891.9813	575781.1820
P1794	2924774.5818	575818.9127	P1834	2924813.2930	575808.1111	P1934	2924851.8768	575798.1661	P1034	2924890.4513	575787.5832	P4011	2924781.7842	575811.0396	P4051	2924811.9278	575803.7300	P4091	2924858.0067	575790.1686	P1131	2924891.5812	575778.5884
P1795	2924777.1863	575817.3434	P1835	2924815.9018	575807.1058	P1935	2924851.4691	575798.5577	P1035	2924893.0436	575788.9144	P4012	2924781.1170	575812.1189	P4052	2924811.9508	575801.8161	P4092	2924858.3380	575791.2160	P1132	2924891.9130	575781.1628
P1796	2924776.5281	575818.4202	P1836	2924816.2176	575808.1912	P1936	2924853.8056	575799.0373	P1036	2924892.3801	575789.0511	P4013	2924783.7118	575810.0378	P4053	2924811.3208	575800.2160	P4093	2924859.0314	575789.0396	P1133	2924891.5009	575779.0563
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P1798	2924778.4709	575817.8238	P1838	2924817.1535	575807.6702	P1938	2924855.7342	575797.1081	P1038	2924894.3088	575788.5248	P4015	2924785.8505	575810.0349	P4055	2924811.2571	575799.6868	P4095	2924862.5831	575789.1103	P1135	2924891.7705	575778.6015
P1799	2924781.0793	575816.3474	P1839	2924819.7475	575808.0888	P1939	2924858.3295	575795.4593	P1039	2924896.3011	575784.9161	P4016	2924784.9834	575811.1123	P4056	2924811.8015	575800.7740	P4096	2924862.1859	575790.1877	P1136	2924891.5812	575778.5884
P1800	2924780.4133	575817.4251	P1840	2924819.0839	575807.1461	P1940	2924859.0630	575795.5790	P1040	2924896.2375	575785.9958	P4017	2924785.9864	575809.5341	P4057	2924811.9278	575803.7300	P4097	2924861.7818	575788.5812	P1137	2924891.3651	575777.9879
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P1802	2924782.3617	575816.8221	P1842	2924821.0141	575808.6231	P1942	2924861.1802	575795.0199	P1042	2924898.1802	575785.1666	P4019	2924789.5205	575809.0249	P4059	2924811.1451	575798.6318	P4099	2924861.7205	575788.0620	P1139	2924891.7951	575778.4888
P1803	2924781.9510	575815.3368	P1843	2924823.6290	575809.0020	P1943	2924862.1810	575794.4110	P1043	2924900.4785	575785.8578	P4020	2924788.8533	575810.1023	P4060	2924811.4780	575799.0382	P4100	2924861.0631	575789.1291	P1140	2924891.6779	575778.5457
P1804	2924784.2974	575816.4195	P1844	2924822.9798	575808.0802	P1944	2924861.5204	575795.5908	P1044	2924900.0650	575784.9374	P4021	2924791.4545	575808.5154	P4061	2924810.0742	575798.1037	P4101	2924860.6493	575787.5228	P1141	2924891.5812	575778.0753
P1805	2924786.8667	575814.8385	P1845	2924825.5544	575804.4761	P1945	2924863.1127	575793.9118	P1045	2924900.6873	575783.5268	P4022	2924790.7873	575809.5820	P4062	2924810.4070	575799.1811	P4102	2924867.9821	575788.6002	P1142	2924891.4377	575778.5271
P1806	2924786.2331	575815.9185	P1846	2924824.9023	575805.5847	P1946	2924863.4492	575794.9915	P1046	2924900.0237	575784.4083	P4023	2924790.2377	575808.0080	P4063	2924810.0032	575797.5758	P4103	2924870.5780	575788.9837	P1143	2924891.1813	575778.4123
P1807	2924788.8324	575814.3340	P1847	2924827.4658	575803.9814	P1947	2924865.0414	575793.3827	P1047	2924904.6160	575782.7885	P4024	2924792.7215	575800.0354	P4064	2924811.3360	575798.6530	P4104	2924868.9108	575788.0711	P1144	2924891.0313	575778.5813
P1808	2924788.1888	575815.4138	P1848	2924828.5020	575805.0410	P1948	2924865.3779	575794.4823	P1048	2924903.9524	575783.8781	P4025	2924795.3225	575807.4985	P4065	2924811.3321	575797.0472	P4105	2924872.5087	575788.4645	P1145	2924891.1111	575778.9567
P1809	2924780.7881	575813.8310	P1849	2924829.3848	575803.4333	P1949	2924867.9702	575792.8835	P1049	2924906.5447	575782.2703	P4026	2924794.8554	575808.5739	P4066	2924811.2849	575798.1248	P4106	2924871.8388	575787.5419	P1146	2924891.0313	575778.5813
P1810	2924780.1016	575813.8107	P1850	2924828.7311	575804.5128	P1950	2924867.3066	575793.9332	P1050	2924906.8812	575783.3500	P4027	2924797.2465	575809.5837	P4067	2924811.4355	575799.5182	P4107	2924871.4355	575788.9351	P1147	2924891.0313	575778.5813
P1811	2924782.0714	575813.3173	P1851	2924831.3236	575802.9052	P1951	2924868.8899	575792.3241	P1051	2924908.4731	575781.7112	P4028	2924798.5820	575808.0631	P4068	2924811.1831	575797.5956	P4108	2924871.7683	575787.0128	P1148	2924891.0313	575778.5813
P1812	2924782.0719	575814.3958	P1852	2924830.8901	575803.9819	P1952	2924869.2353	575793.4040	P1052	2924907.8089	575782.8209	P4029	2924799.1781	575809.1687	P4069	2924811.7895	575798.9892	P4109	2924871.7683	575787.0128	P1149	2924891.0313	575778.5813
P1813	2924781.6365	575812.8078	P1853	2924833.2626	575802.3772	P1953	2924871.8276	575794.7962	P1053	2924910.4022	575781.2120	P4030	2924798.5146	575807.5163	P4070	2924811.1221	575797.0666	P4110	2924871.7683	575787.0128	P1150	2924891.0313	575778.5813
P1814	2924783.9719	575813.8074	P1854	2924832.5881	575803.4568	P1954	2924871.1641	575792.0748	P1054	2924909.7386	575782.2918	P4031	2924801.0357	575805.9551	P4071	2924811.7184	575795.4802	P4111	2924871.7683	575787.0128	P1151	2924891.0313	575778.5813
P1815	2924786.5805	575812.2983	P1855	2924835.1817	575801.6491	P1955	2924873.7583	575791.2680	P1055	2924912.3309	575780.8828	P4032	2924800.4379	575807.0362	P4072	2924811.0512	575798.5378	P4112	2924871.7683	575787.0128	P1152	2924891.0313	575778.5813
P1816	2924785.9059	575813.3780	P1856	2924834.5181	575802.0287	P1956	2924873.0026	575792.3457	P1056	2924911.8873	575781.7823	P4033	2924803.0350	575805.4394	P4073	2924811.6471	575794.9311	P4113	2924871.7683	575787.0128	P1153	2924891.0313	575778.5813
P1817	2924788.5088	575811.7814	P1857	2924837.1104	575801.3187	P1957	2924875.8851	575790.7368	P1057	2924914.2598	575780.1537	P4034	2924802.3										

TO WORCESTER, MA

PUBLIC VERSION

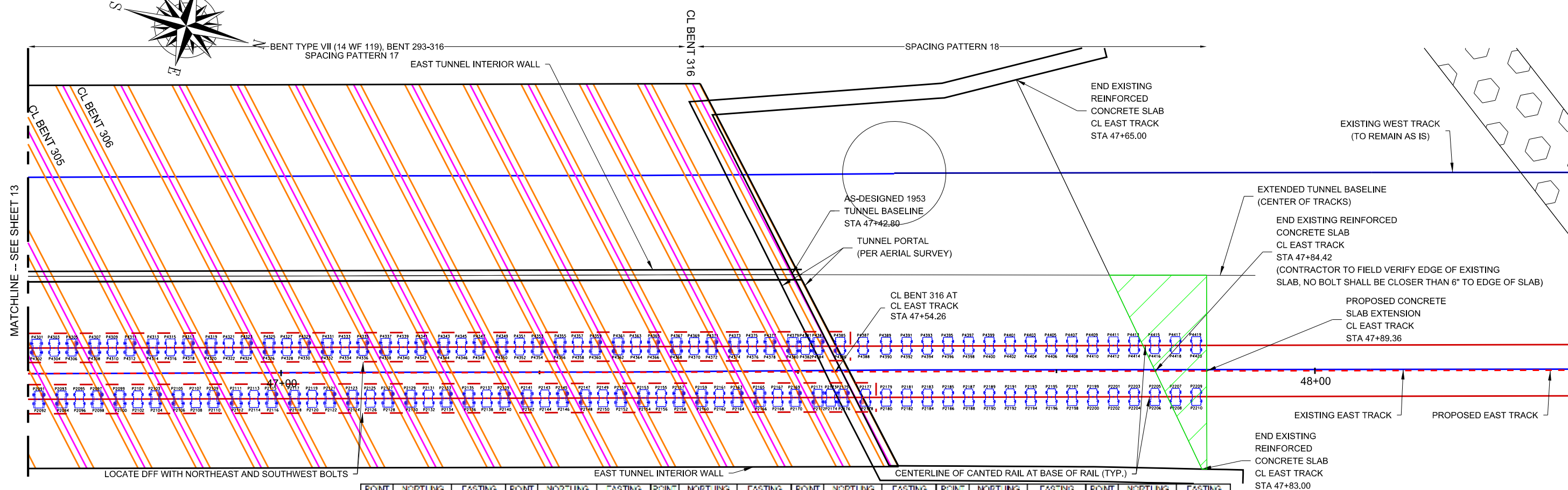
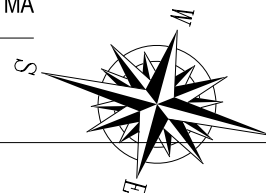
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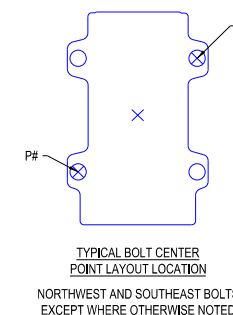
CENTERLINE OF CANTED RAIL AT BASE OF RAIL (TYP.)

EAST TUNNEL INTERIOR WALL LOCATE DFF WITH NORTHEAST AND SOUTHWEST BOLTS

POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
P1838	2924913.8661	575781.7533	P1878	2924952.7088	575770.8461	P1918	2924990.7833	575760.0829	P1958	2925028.7297	575749.7890	P1998	2924918.7982	575773.7847	P2038	2924957.5378	575763.1857	P2078	2924995.8874	575752.8030
P1839	2924916.1630	575779.8245	P1879	2924954.7863	575769.0264	P1919	2924992.3809	575758.4452	P1959	2925029.7008	575748.7528	P1999	2924919.1290	575774.8421	P2039	2924958.8803	575764.2728	P2079	2924996.8803	575753.8094
P1840	2924915.5278	575780.7042	P1880	2924957.375	575770.1169	P1920	2924993.7121	575759.5337	P1960	2925030.8183	575749.3502	P2000	2924920.7249	575773.2355	P2040	2924959.2615	575762.5671	P2080	2924997.8361	575752.5739
P1841	2924918.1171	575779.0364	P1881	2924959.7151	575768.4897	P1921	2924994.2893	575757.8160	P1961	2925031.7893	575748.3188	P2001	2924921.0578	575774.3129	P2041	2924960.1891	575763.7434	P2081	2924998.7836	575753.1807
P1842	2924917.4635	575780.1750	P1882	2924956.0562	575769.5878	P1922	2924995.5108	575758.0046	P1962	2925032.4068	575748.8143	P2002	2924922.6537	575772.7063	P2042	2924961.1893	575762.1279	P2082	2924999.7548	575751.5417
P1843	2924919.0458	575778.8887	P1883	2924958.8438	575767.8701	P1923	2924996.7183	575757.2893	P1963	2925033.5397	575747.8896	P2003	2924923.1885	575773.7837	P2043	2924962.0578	575763.7143	P2083	2925000.123	575752.8310
P1844	2924919.3823	575779.8458	P1884	2924957.5950	575769.0588	P1924	2924998.5595	575758.4754	P1964	2925033.8567	575748.2971	P2004	2924924.5029	575772.1790	P2044	2924963.1190	575761.5967	P2084	2925001.6938	575751.0155
P1845	2924921.8745	575779.0370	P1885	2924960.5725	575767.4409	P1925	2924999.4171	575759.8577	P1965	2925034.1277	575747.2637	P2005	2924925.8157	575773.2564	P2045	2924962.4665	575762.8661	P2085	2925002.0111	575752.1019
P1846	2924921.3111	575779.1157	P1886	2924960.8737	575768.8295	P1926	2924999.4887	575757.8463	P1966	2925035.7457	575747.8613	P2006	2924926.5115	575773.6498	P2046	2924963.0477	575763.1836	P2086	2925003.8723	575753.4854
P1847	2924923.9033	575777.5079	P1887	2924962.8013	575768.8118	P1927	2925001.0759	575758.3208	P1967	2925035.7162	575748.8279	P2007	2924927.6444	575772.7272	P2047	2924964.3953	575762.1589	P2087	2925002.8890	575751.5727
P1848	2924923.5897	575777.5675	P1888	2924961.8524	575768.0003	P1928	2925000.4270	575757.4171	P1968	2925036.8337	575747.4254	P2008	2924928.4403	575771.1207	P2048	2924965.8765	575760.5404	P2088	2925003.2509	575750.0387
P1849	2924925.8370	575779.8787	P1889	2924964.4300	575766.3826	P1929	2925003.0343	575755.7894	P1969	2925037.9651	575746.2106	P2009	2924929.7737	575772.1881	P2049	2924966.5240	575761.8288	P2089	2925004.5884	575751.1290
P1850	2924925.1634	575779.0563	P1890	2924963.7811	575767.4711	P1930	2925002.3557	575756.8679	P1970	2925038.0838	575748.8062	P2010	2924930.3309	575770.5853	P2050	2924968.9052	575760.0113	P2090	2925005.8744	575749.8678
P1851	2924927.7607	575775.4186	P1891	2924966.3587	575765.8534	P1931	2925005.8333	575755.2702	P1971	2925038.5546	575745.7748	P2011	2924931.6816	575771.6816	P2051	2924968.2527	575761.0876	P2091	2925006.8899	575750.1689
P1852	2924927.0872	575777.5293	P1892	2924966.7039	575766.8420	P1932	2925004.7844	575756.2688	P1972	2925040.6721	575746.3723	P2012	2924932.2584	575770.0853	P2052	2924969.8338	575762.4821	P2092	2925008.743	575749.7804
P1853	2924929.8694	575775.9204	P1893	2924968.2074	575765.3243	P1933	2925008.8820	575754.7411	P1973	2925041.1431	575745.3390	P2013	2924933.1881	575771.1517	P2053	2924970.1614	575760.5664	P2093	2925009.2390	575749.8517
P1854	2924929.0238	575777.0000	P1894	2924967.8386	575764.4728	P1934	2925006.2131	575755.8296	P1974	2925042.7607	575745.8363	P2014	2924934.1881	575772.5351	P2054	2924971.6577	575761.8529	P2094	2925010.2380	575748.8448
P1855	2924931.6418	575775.3763	P1895	2924970.2162	575764.7951	P1935	2925008.7507	575754.2119	P1975	2925043.3930	575744.7217	P2015	2924935.5356	575770.8225	P2055	2924972.1102	575760.0390	P2095	2925010.3555	575749.5461
P1856	2924930.8828	575775.1669	P1896	2924969.5573	575765.8637	P1936	2925008.1119	575755.3005	P1976	2925044.5105	575745.3182	P2016	2924936.1158	575769.0070	P2056	2924973.8011	575768.4238	P2096	2925010.3516	575748.5383
P1857	2924933.5403	575776.8487	P1897	2924972.4449	575764.2880	P1937	2925009.8518	575753.8789	P1977	2925044.9815	575744.2860	P2017	2924937.4643	575770.0853	P2057	2924974.0388	575769.8101	P2097	2925011.4671	575749.7406
P1858	2924932.9215	575775.9377	P1898	2924971.4861	575765.3545	P1938	2925010.7894	575754.5764	P1978	2925045.0991	575744.8634	P2018	2924938.0456	575768.4778	P2058	2924975.8201	575767.8948	P2098	2925013.7170	575748.8233
P1859	2924935.4991	575777.3200	P1899	2924974.0736	575763.7368	P1939	2925011.7812	575753.3947	P1979	2925046.5791	575743.8501	P2019	2924939.3351	575769.5810	P2059	2924976.9675	575768.8610	P2099	2925012.6015	575748.0220
P1860	2924934.8602	575775.4083	P1900	2924973.4248	575764.8253	P1940	2925012.8887	575754.4476	P1980	2925047.6876	575744.4476	P2020	2924940.9743	575769.9487	P2060	2924978.8488	575769.3803	P2100	2925013.3055	575748.1875
P1861	2924937.4278	575773.7908	P1901	2924978.0023	575763.2078	P1941	2925012.8848	575753.0691	P1981	2925048.0199	575743.2328	P2021	2924941.9743	575769.0050	P2061	2924979.8993	575768.4518	P2101	2925014.800	575747.8682
P1862	2924936.7790	575774.8794	P1902	2924975.3535	575764.2862	P1942	2925014.0124	575753.8666	P1982	2925048.9375	575743.8303	P2022	2924942.6784	575767.1681	P2062	2924980.4775	575766.8363	P2102	2925016.8841	575747.7516
P1863	2924938.3665	575773.2817	P1903	2924977.8311	575762.8785	P1943	2925014.0088	575752.7836	P1983	2925049.4267	575743.7970	P2023	2924943.2830	575768.5599	P2063	2924981.8251	575767.8226	P2103	2925018.1786	575747.1804
P1864	2924938.7077	575773.3502	P1904	2924977.2822	575763.7870	P1944	2925015.1260	575753.2611	P1984	2925049.8199	575743.2945	P2024	2924944.8317	575769.3071	P2064	2924982.4063	575768.3071	P2104	2925019.439	575747.1344
P1865	2924941.2838	575777.0235	P1905	2924978.8588	575762.1493	P1945	2925016.7584	575754.1563	P1985	2925050.9170	575743.3611	P2025	2924945.1783	575769.9767	P2065	2924983.8538	575769.2833	P2105	2925018.0284	575746.5331
P1866	2924940.6364	575773.8211	P1906	2924979.2110	575763.2379	P1946	2925017.3759	575752.7638	P1986	2925053.1145	575742.9567	P2026	2924946.3812	575768.3812	P2066	2924984.3550	575767.7860	P2106	2925020.7325	575748.8968
P1867	2924943.2140	575777.2034	P1907	2924981.1883	575761.8202	P1947	2925017.8489	575751.7303	P1987	2925054.7489	575741.4439	P2027	2924947.1089	575769.4473	P2067	2924985.8875	575768.8543	P2107	2925019.8170	575746.0373
P1868	2924942.5651	575773.2919	P1908	2924981.1297	575762.7067	P1948	2925018.9844	575752.3280	P1988	2925055.3844	575742.3414	P2028	2924947.6892	575769.8320	P2068	2924986.2637	575769.2468	P2108	2925022.3210	575748.2627
P1869	2924945.1427	575771.5742	P1909	2924983.7173	575761.0910	P1949	2925019.4354	575751.3061	P1989	2925055.8354	575741.3061	P2029	2924948.7037	575769.0387	P2069	2924987.5113	575768.3362	P2109	2925021.2055	575745.8614
P1870	2924944.4838	575777.0277	P1910	2924984.0884	575762.1493	P1950	2925020.8530	575751.8927	P1990	2925056.9239	575741.8066	P2030	2924949.6179	575769.3029	P2070	2924988.1975	575764.7197	P2110	2925024.5709	575745.8465
P1871	2924947.0714	575771.1450	P1911	2924985.6460	575760.5618	P1951	2925021.8853	575750.8774	P1991	2925057.4239	575740.8722	P2031	2924950.9654	575768.3892	P2071	2924989.3400	575765.8060	P2111	2925023.4554	575745.0442
P1872	2924946.8228	575772.2336	P1912	2924987.8871	575761.8504	P1952	2925022.8828	575751.8779	P1992	2925058.0109	575739.3521	P2032	2924951.5487	575769.7737	P2072	2924990.1212	575764.1905	P2112	2925025.594	575745.2066
P1873	2924949.0007	575773.8159	P1913	2924989.7477	575763.0327	P1953	2925023.7338	575760.2416	P1993	2925059.3478	575738.4293	P2033	2924952.8947	575769.8801	P2073	2924991.4837	575765.7188	P2113	2925027.7479	575744.7738
P1874	2924949.3513	575771.7044	P1914	2924990.9259	575761.1212	P1954	2925024.3814	575759.8391	P1994	2925060.4937	575737.8250</									



POINT	NORTING	EASTING	POINT	NORTING	EASTING	POINT	NORTING	EASTING	POINT	NORTING	EASTING	POINT	NORTING	EASTING	POINT	NORTING	EASTING
P2090	2925089.5415	575741.4038	P2130	2925084.9414	575730.4450	P2170	2925131.3414	575721.4566	P2301	2925070.3724	575736.1120	P2431	2925097.8711	575726.9358	P2561	2925188.3857	575716.4441
P2090	2925089.6780	575740.3550	P2130	2925085.9124	575730.4450	P2170	2925131.3275	575721.4566	P2302	2925086.0189	575736.1120	P2432	2925091.7556	575726.9358	P2562	2925187.6007	575716.4441
P2091	2925089.7813	575740.8535	P2131	2925085.9300	575731.0473	P2171	2925132.4551	575721.1910	P2303	2925088.7210	575736.2761	P2433	2925096.1209	575726.2895	P2563	2925129.8599	575716.7441
P2091	2925089.7813	575739.9191	P2131	2925085.7768	575730.4331	P2171	2925133.4817	575720.7849	P2304	2925087.0555	575735.8148	P2434	2925094.0354	575726.9358	P2564	2925188.3857	575716.4441
P2096	2925062.3789	575740.1167	P2136	2925088.7778	575730.3301	P2176	2925133.5857	575720.8555	P2305	2925080.3595	575735.8103	P2435	2925086.7095	575726.8537	P2565	2925132.0392	575716.1641
P2097	2925067.8509	575739.3833	P2137	2925088.0556	575730.2967	P2177	2925134.0111	575719.0752	P2306	2925087.3440	575735.2900	P2436	2925086.4440	575726.7574	P2566	2925130.9545	575715.5541
P2098	2925083.9584	575739.9608	P2138	2925100.3584	575729.9962	P2178	2925135.0111	575720.3662	P2307	2925082.5594	575735.2200	P2437	2925086.2600	575726.4179	P2567	2925133.4444	575714.4441
P2099	2925065.507	575738.7660	P2139	2925100.8384	575728.9609	P2179	2925137.3927	575718.8291	P2308	2925061.4139	575737.8218	P2438	2925097.1825	575724.8166	P2568	2925133.2920	575715.5541
P2100	2925086.2187	575739.3036	P2140	2925101.9899	575729.8436	P2180	2925136.7436	575720.0166	P2309	2925084.4449	575734.7877	P2439	2925100.5449	575724.8004	P2569	2925136.0218	575714.4441
P2101	2925086.8950	575738.3302	P2141	2925102.0892	575730.3436	P2181	2925139.3212	575719.3999	P2310	2925083.0324	575734.1699	P2450	2925099.4324	575724.1990	P2570	2925135.4263	575715.5541
P2102	2925067.0268	575738.5279	P2142	2925104.2057	575730.5412	P2182	2925139.8723	575719.4665	P2311	2925085.7364	575734.3514	P2451	2925102.1364	575724.3549	P2571	2925138.0107	575715.5541
P2103	2925068.2778	575737.8474	P2143	2925104.6778	575727.5078	P2183	2925141.2199	575718.8708	P2312	2925086.6209	575733.7501	P2452	2925101.0200	575723.7535	P2572	2925137.3575	575717.7041
P2104	2925089.3553	575738.4919	P2144	2925105.2953	575728.5053	P2184	2925140.8011	575718.9993	P2313	2925087.5953	575733.7341	P2453	2925103.7249	575723.9290	P2573	2925139.9387	575713.3841
P2105	2925070.8277	575737.2771	P2145	2925105.2835	575727.4720	P2185	2925143.1768	575717.3416	P2314	2925088.0709	575733.1328	P2454	2925102.8594	575723.3277	P2574	2925139.2962	575714.7141
P2106	2925071.6162	575737.8747	P2146	2925107.3838	575728.0689	P2186	2925142.5298	575718.1301	P2315	2925089.6748	575733.2863	P2455	2925106.8748	575723.3171	P2575	2925141.8577	575712.5641
P2107	2925072.1167	575736.9413	P2147	2925108.5137	575729.0474	P2187	2925143.1716	575716.9214	P2316	2925088.4593	575733.5970	P2456	2925104.8939	575722.8104	P2576	2925141.7041	575712.8441
P2108	2925073.3237	575737.4388	P2148	2925108.6367	575727.4622	P2188	2925144.1585	575717.5010	P2317	2925071.854	575732.8655	P2457	2925107.9533	575722.7499	P2577	2925143.7562	575712.0241
P2109	2925073.7347	575736.4055	P2149	2925110.1047	575726.4189	P2189	2925147.3351	575716.7833	P2318	2925070.6479	575732.7617	P2458	2925106.4478	575722.7446	P2578	2925143.437	575713.3841
P2110	2925074.8222	575737.0050	P2150	2925111.2232	575727.1164	P2190	2925148.3872	575717.3718	P2319	2925073.4732	575732.2452	P2459	2925109.1591	575722.4400	P2579	2925145.7249	575711.4541
P2111	2925075.8916	575735.7682	P2151	2925111.6932	575725.8151	P2191	2925148.3848	575715.7511	P2320	2925072.2377	575731.5439	P2460	2925108.0314	575721.8388	P2580	2925155.0724	575712.5641
P2112	2925077.6721	575736.3857	P2152	2925112.9411	575726.0690	P2192	2925148.3190	575716.9427	P2321	2925073.0218	575731.8094	P2461	2925111.4017	575721.8728	P2581	2925147.0536	575710.5541
P2113	2925077.8431	575735.3524	P2153	2925112.9411	575725.2650	P2193	2925150.4835	575715.3250	P2322	2925073.0662	575731.2061	P2462	2925110.2662	575721.2315	P2582	2925147.0211	575712.0241
P2114	2925078.6906	575735.8499	P2154	2925115.0656	575725.9633	P2194	2925150.2447	575716.3135	P2323	2925076.5903	575731.3736	P2463	2925112.5503	575721.3870	P2583	2925149.8827	575710.4441
P2115	2925079.7316	575734.9166	P2155	2925115.5416	575724.9300	P2195	2925150.9723	575716.8588	P2324	2925078.4748	575730.7723	P2464	2925111.8747	575720.9517	P2584	2925148.9991	575711.5541
P2116	2925080.2492	575735.5141	P2156	2925118.4841	575725.5275	P2196	2925152.7334	575715.7643	P2325	2925078.0401	575730.7564	P2465	2925114.5768	575720.9517	P2585	2925151.8111	575709.9141
P2117	2925081.3815	575734.2993	P2157	2925117.1201	575724.1911	P2197	2925154.7510	575716.1666	P2326	2925077.7216	575730.1590	P2466	2925115.1533	575720.3498	P2586	2925150.8566	575710.5541
P2118	2925082.1890	575734.8968	P2158	2925118.2377	575725.0917	P2198	2925154.1022	575715.2552	P2327	2925080.4287	575730.3209	P2467	2925116.8286	575720.3339	P2587	2925153.1398	575709.3841
P2119	2925083.9700	575734.9833	P2159	2925118.3310	575724.8169	P2199	2925156.9797	575714.8375	P2328	2925081.3137	575729.7189	P2468	2925117.7331	575719.7296	P2588	2925153.7873	575710.4441
P2120	2925084.0878	575734.4610	P2160	2925120.4975	575724.4744	P2200	2925158.0009	575714.7260	P2329	2925082.0172	575729.8646	P2469	2925118.4712	575719.0860	P2589	2925155.3565	575709.8541
P2121	2925084.8586	575734.4776	P2161	2925120.9858	575724.4410	P2201	2925158.8884	575714.1083	P2330	2925080.0517	575729.8634	P2470	2925117.3017	575719.7888	P2590	2925156.7160	575709.8541
P2122	2925085.6761	575734.2262	P2162	2925122.0781	575724.0368	P2202	2925157.5596	575714.1969	P2331	2925084.2371	575729.2674	P2471	2925118.0257	575719.4822	P2591	2925157.2573	575709.3841
P2123	2925086.8067	575732.8104	P2163	2925122.5471	575723.0352	P2203	2925160.5372	575712.9792	P2332	2925083.816	575728.5661	P2472	2925118.8800	575718.6809	P2592	2925156.6418	575709.1441
P2124	2925088.9260	575734.4079	P2164	2925123.6646	575723.8028	P2204	2925160.9883	575713.5577	P2333	2925088.8566	575728.9315	P2473	2925119.2252	575718.8449	P2593	2925156.2260	575707.7041
P2125	2925089.3870	575732.3746	P2165	2925124.7959	575722.3660	P2205	2925162.4859	575712.9500	P2334	2925084.7401	575728.2300	P2474	2925121.1401	575718.2407	P2594	2925150.5735	575709.8541
P2126	2925089.5145	575732.8721	P2166	2925125.9145	575722.8653	P2206	2925161.8711	575713.1385	P2335	2925087.4411	575728.3957	P2475	2925123.8411	575718.6291	P2595	2925161.5417	575707.2641
P2127	2925089.8855	575731.9387	P2167	2925126.3850	575721.9521	P2207	2925164.3046	575711.5208	P2336	2925089.3986	575727.9844	P2476	2925124.7985	575717.4818	P2596	2925160.5227	575708.3841
P2128	2925091.430	575732.5963	P2168	2925127.5030	575721.5497	P2208	2925165.7458	575712.8094	P2337	2925089.6840	575727.7765	P2477	2925125.4326	575717.9793	P2597	2925163.0835	575708.7041
P2129	2925092.2357	575731.3215	P2169	2925127.9740	575721.5163	P2209	2925166.3237	575710.8917	P2338	2925088.9785	575727.1772	P2478	2925126.3171	575717.3720	P2598	2925162.4310	575707.8541
P2130	2925093.3829	575731.9190	P2170	2925128.0798	575722.1198	P2210	2925166.6143	575712.6443	P2339	2925089.2825	575727.3426	P2479	2925127.0925	575717.3650	P2599	2925163.0777	575707.2641
P2131	2925093.0239	575730.0656	P2171	2925130.2229	575720.9500	P2211	2925202.8624	575763.0598	P2340	2925090.870	575726.7413	P2480	2925126.5870	575717.6547	P2600	2925164.3597	575707.2641



SPACING PATTERN TABLE		
PATTERN	BETWEEN FASTENERS	SPACING OVER INVERT BEAMS
17	19.75"	28"
18	24"	

	EXISTING TRACK		EXISTING EDGE OF INVERT
	PROPOSED TRACK		BEAM FLANGE
	TRACK TO BE LINED/SHIFTED		PROPOSED DFF
	EXISTING SURFACE FEATURES		'NO BOLT' LOCATION
	EXISTING TUNNEL FEATURES		PROPOSED CONCRETE SLAB
	CL EXISTING INVERT BEAM		EXTENSION
	PROPOSED RAILS (CENTERLINE OF CANTED RAIL AT BASE OF RAIL)		PROPOSED CONCRETE SLAB EXTENSION

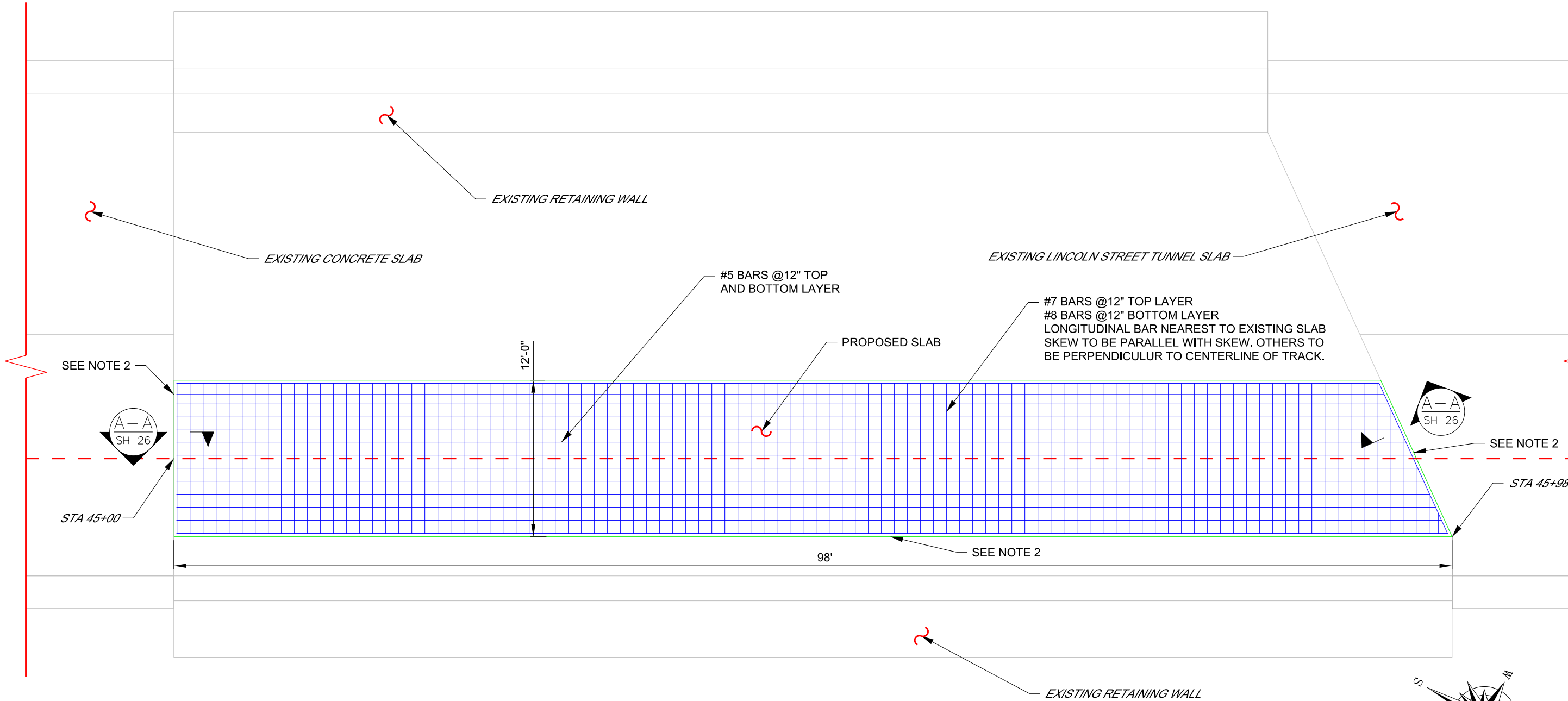
SCALE: 1" = 5'



 **NORFOLK SOUTHERN**
NORFOLK SOUTHERN RAILWAY COMPANY

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MODEL NAME: $MODELNAME$
DATE PRINTED: $DATE$
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REV BY		DATE	DESCRIPTION	
LOCATION				
G&W PW, GARDNER BRANCH SUBDIV				
TITLE				
DIRECT FIXATION PLANS SHEET 14 OF 14				
JOH	DD	PLO No.	D3120	FILE POST MP 0.6-2.
JOH	BC	FILE No.	TRK1114422	DRAWING NUMBER
CK	NR	DATE	02-09-2024	TB-2022-11
CADD FILE#		RELEAS*		SHEET 23 OF 45
LAST SAVE#		RE-RELEASE DATE*		



GENERAL NOTES:

1. CONTRACTOR TO PERFORM EXPLORATORY EXCAVATION TO VERIFY IF EXISTING SLAB IS PRESENT BETWEEN STA 45+00 AND STA 45+98. IF EXISTING SLAB IS PRESENT AND SOUND, DO NOT REMOVE EXISTING SLAB. REMOVE CONCRETE TO MEET PROPOSED TOP OF RAIL IN ACCORDANCE WITH TYPICAL SECTION 3 ON SHEET 3.
2. PROVIDE 1/2" EXPANSION JOINT MATERIAL AT ALL CONSTRUCTION JOINTS AND AT INTERFACE WITH EXISTING SLABS AND RETAINING WALL.
2. PROVIDE 2 1/2" COVER ON TOP SURFACE OF SLAB. 3" COVER ELSEWHERE.
3. CONTRACTOR TO FIELD VERIFY ALL PROVIDED EXISTING DIMENSIONS.
4. PROVIDE CONTRACTION JOINTS AT 20' SPACING IN ACCORDANCE WITH AREMA FIGURE 8-1-2 WITH DEPTH OF 6".

PLAN - PROPOSED SLAB STA 45+00 TO 45+98

LEGEND			
	EXISTING TRACK		EXISTING SURFACE
	PROPOSED TRACK		EXISTING TUNNEL INVERT
	TRACK TO BE LINED/SHIFTED		EXISTING TOP OF STEEL BEAM

SCALE 1" = 4'

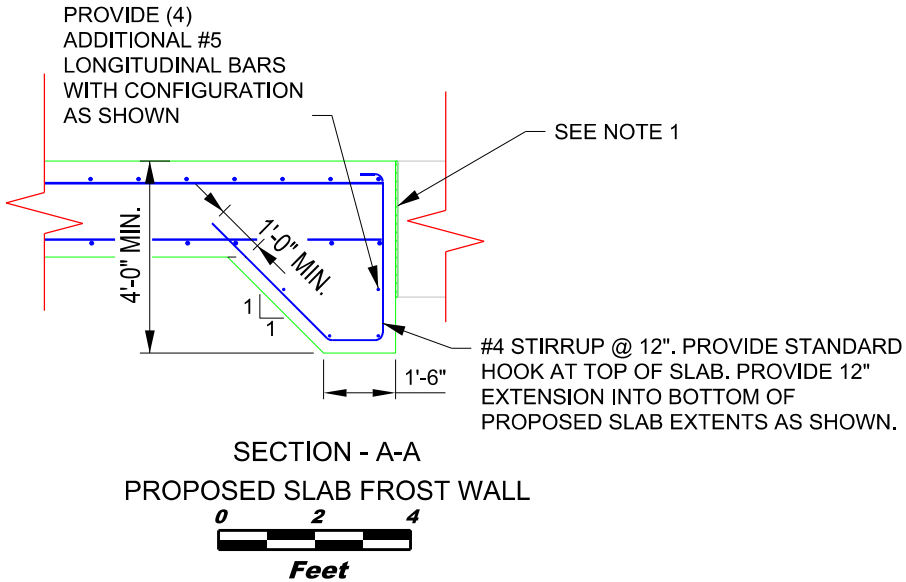
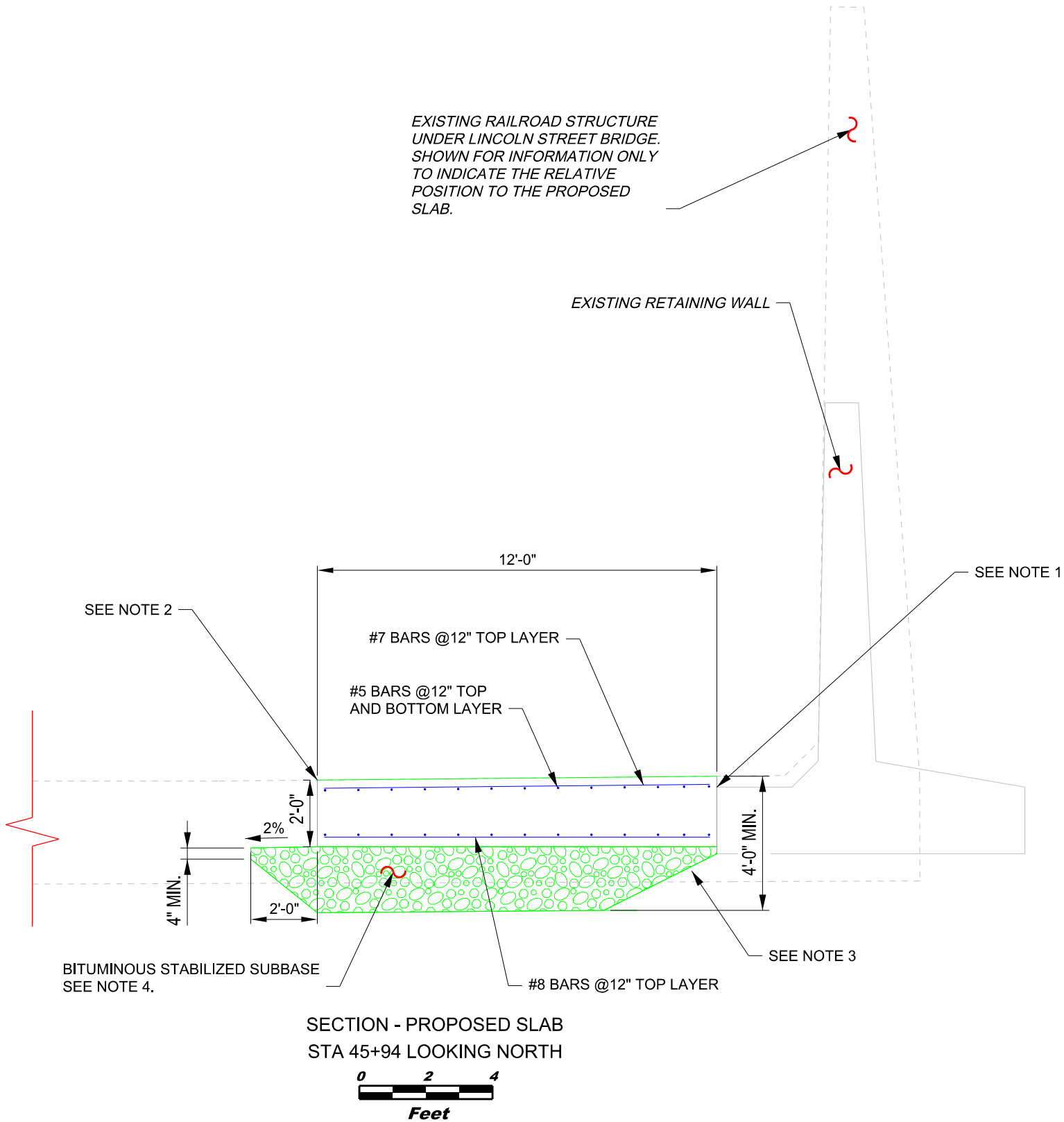
2' 0' 4' 12'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

NORFOLK SOUTHERN
NORFOLK SOUTHERN RAILWAY COMPANY
OWNING COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1	TA	02-09-2024	PROPOSED CONCRETE SLAB 1 OF 2
G&W PW. GARDNER BRANCH SUBDIV			
DRN	TA	FILE No. D3120	FILE POST MP 0.6-2.0
CHK	CC	DATE 02-09-2024	DRAWING NUMBER TB-2022-11
LAST SAVED: *LASTSAVEDDATE*			



GENERAL NOTES:

1. PROVIDE 1/2" EXPANSION JOINT MATERIAL ALONG PROPOSED SLAB INTERFACE WITH EXISTING RETAINING WALL AND EXISTING SLABS.
2. TOP ELEVATION OF EXISTING SLAB TO MATCH PROPOSED GRADE AND ELEVATION PROVIDED ON TRACK ELEVATION SHEETS AND TIE IN WITH THE ADJACENT MILLED SLABS.
3. DO NOT UNDERMINE RETAINING WALL DURING EXCAVATION. EXCAVATE DOWN FROM TOE OF RETAINING WALL AT A 2:1 SLOPE TO MINIMUM SUBBASE DEPTH.
4. PROVIDE STABILIZED SUBBASE IN ACCORDANCE WITH AREMA 8-27.4.3.
5. LAP REBAR IN ACCORDANCE WITH AREMA 8-2.16
6. PROVIDE FROST WALL ON NORTH AND SOUTH ENDS OF PROPOSED SLAB AS SHOWN ON SECTION A-A.

LEGEND			
	EXISTING TRACK		EXISTING SURFACE
	PROPOSED TRACK		EXISTING TUNNEL INVERT
	TRACK TO BE LINED/SHIFTED		EXISTING TOP OF STEEL BEAM

SCALE : 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

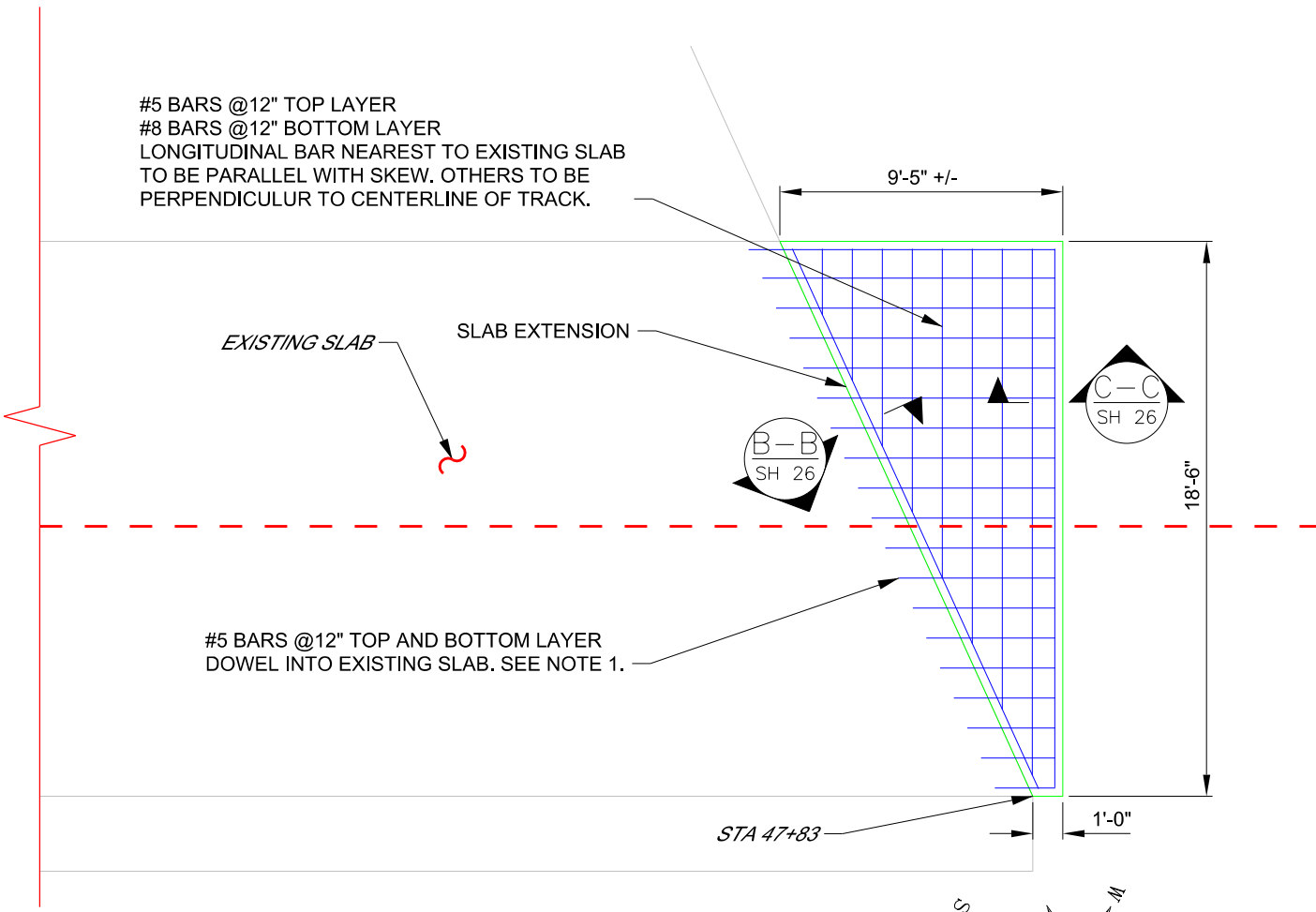
NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY COMPANY

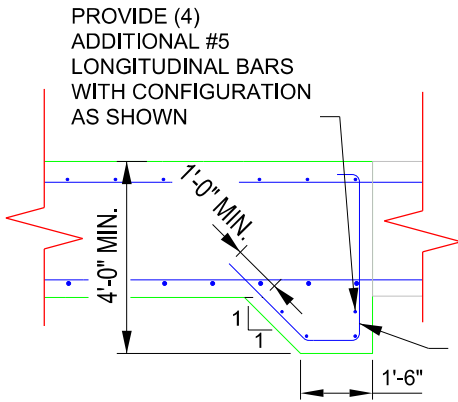
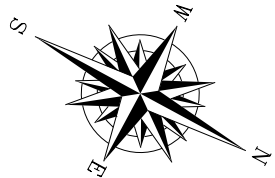
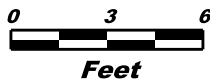
OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

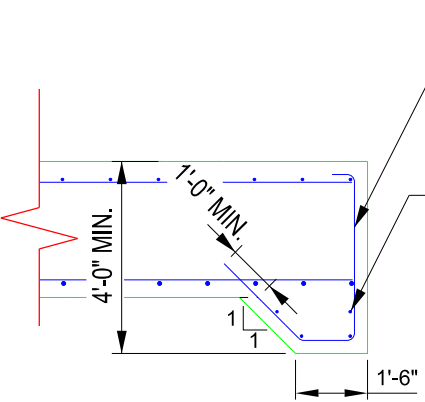
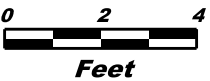
REV	BY	DATE	DESCRIPTION
1	TA	02-09-2024	PROPOSED CONCRETE SLAB 2 OF 2
G&W PW, GARDNER BRANCH SUBDIV			
PROPOSED CONCRETE SLAB 2 OF 2			
OWN	TA	FILE No. D3120	FILE POST MP 0.6-2.0
CHK	CC	FILE No. TRK1114427	DRAWING NUMBER
DATE 02-09-2024			TB-2022-11
LAST SAVED: 02-09-2024			SHEET 26 OF 45



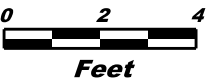
PLAN - PROPOSED SLAB EXTENSION
UNDER NEW LINCOLN STREET BRIDGE



SECTION - B-B
SLAB EXTENSION FROST WALL



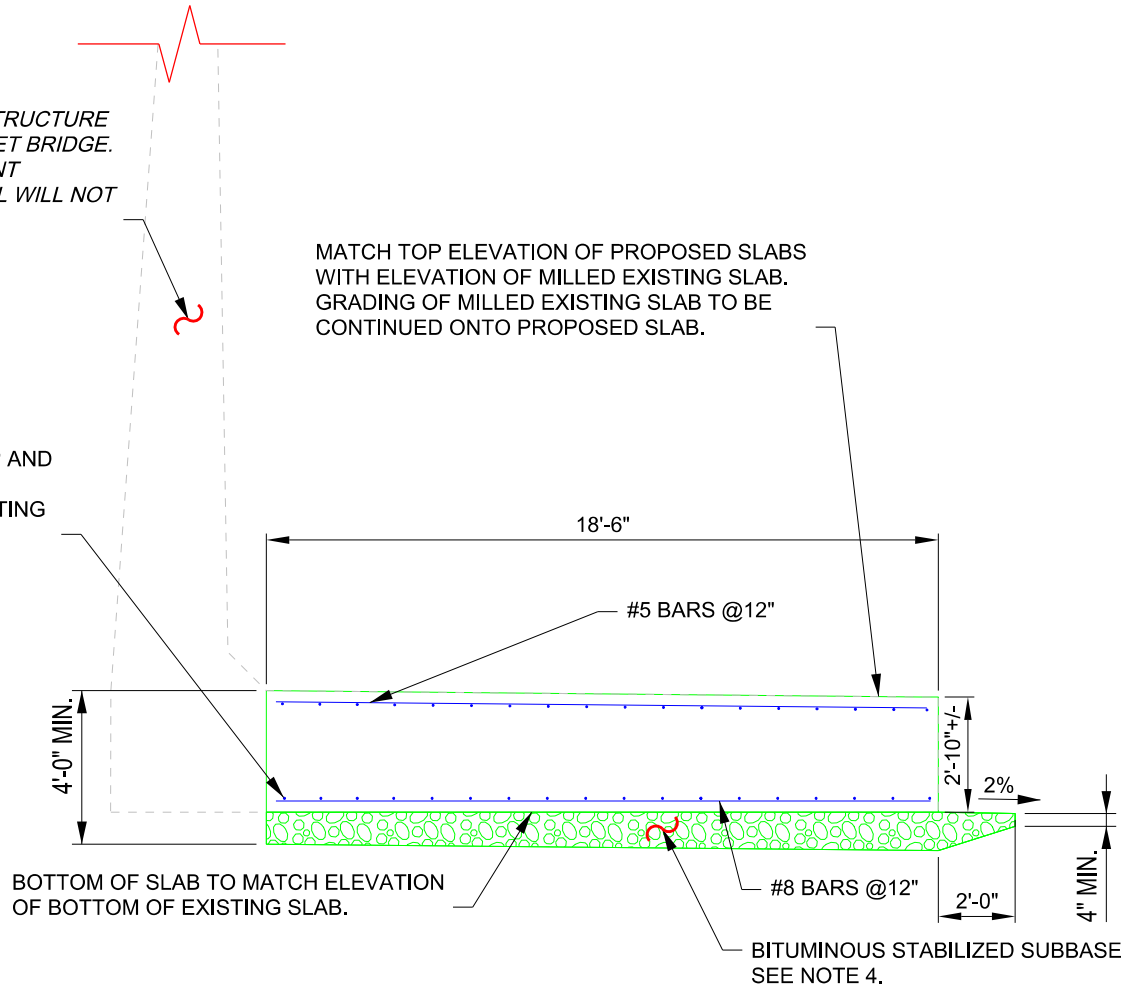
SECTION - C-C
SLAB EXTENSION FROST WALL



LEGEND			
	EXISTING TRACK		EXISTING SURFACE
	PROPOSED TRACK		EXISTING TUNNEL INVERT
	TRACK TO BE LINED/SHIFTED		EXISTING TOP OF STEEL BEAM

EXISTING RAILROAD STRUCTURE
UNDER LINCOLN STREET BRIDGE.
SHOWN FOR ALIGNMENT
PURPOSES ONLY. WALL WILL NOT
LINE UP WITH SLAB

#5 BARS @12" TOP AND
BOTTOM LAYER
DOWEL INTO EXISTING
SLAB.



SECTION - PROPOSED SLAB EXTENSION
STA 47+83 LOOKING SOUTH

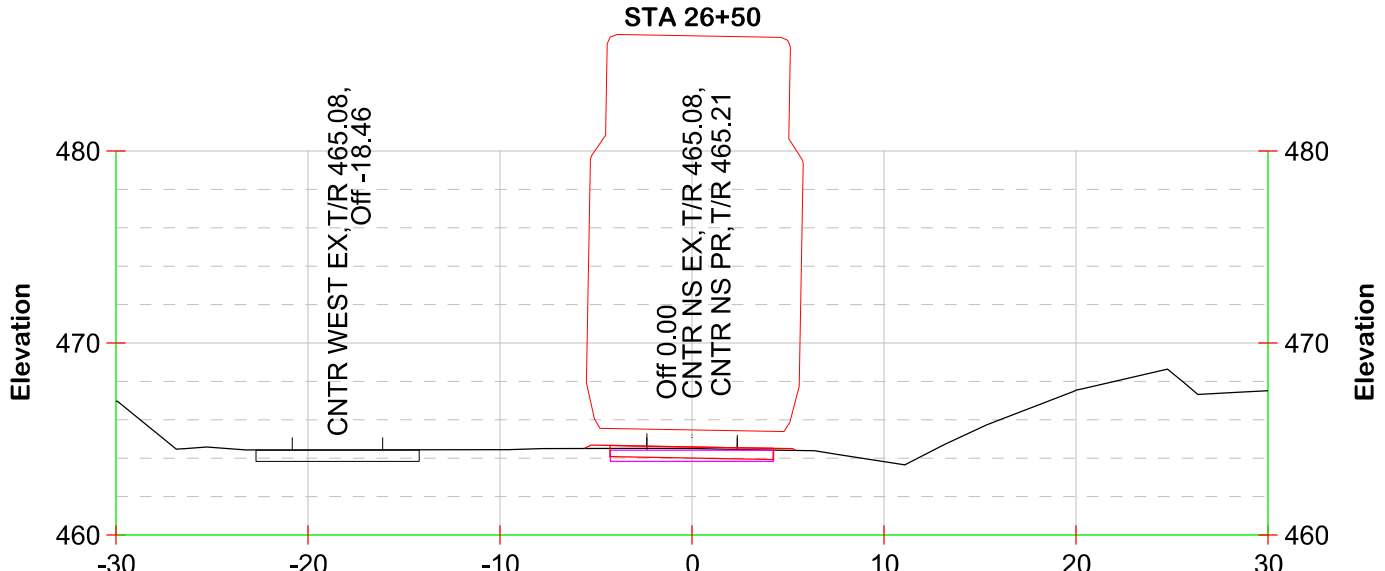
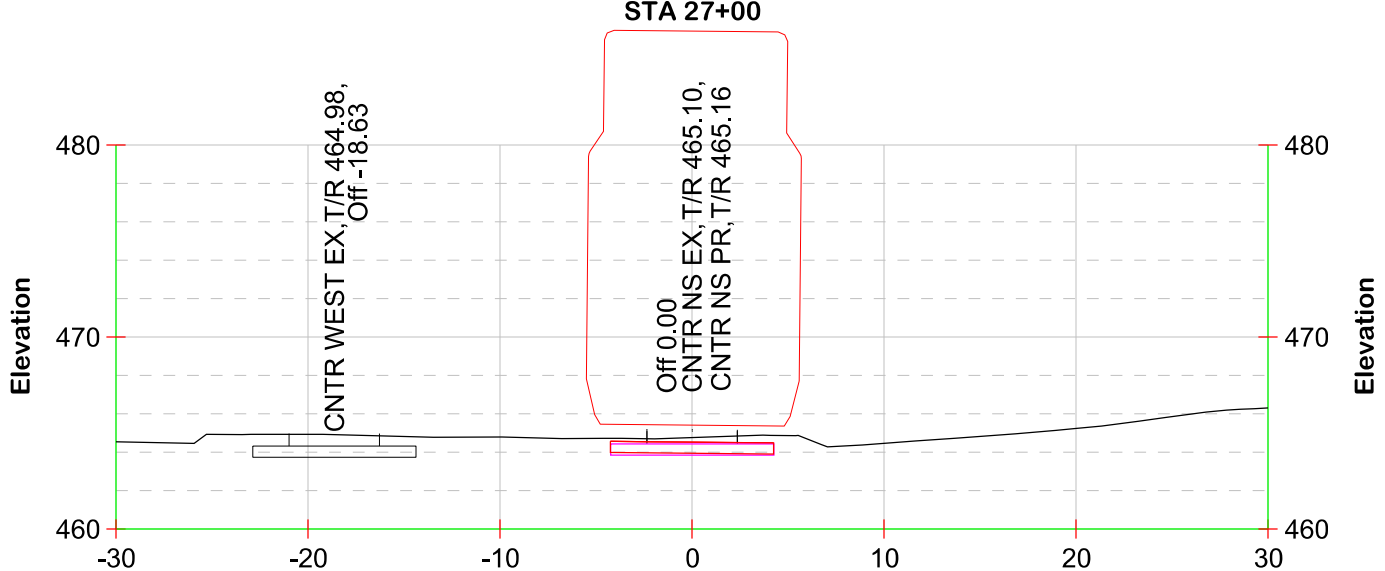
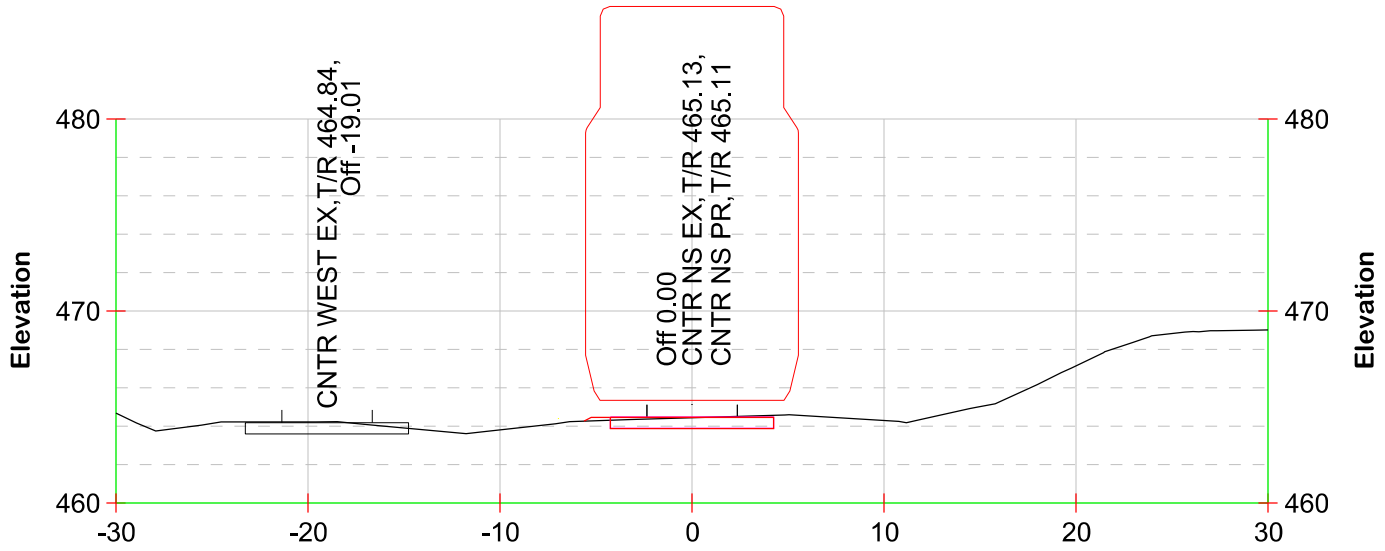


GENERAL NOTES:

1. EPOXY DOWEL REINFORCEMENT INTO EXISTING SLAB USING HILTI HIT RE-500V3 OR APPROVED EQUAL PER MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST. REFER TO MANUFACTURER'S INSTRUCTIONS FOR REQUIRED EDGE DISTANCE AND EMBEDMENT DEPTH. PROVIDE EMBEDMENT DEPTH TO ACHIEVE MAXIMUM CAPACITY PER MANUFACTURER'S TECHNICAL GUIDANCE.
2. WHEN INSTALLING EPOXY DOWELS, USE A PACHOMETER TO LOCATE AND AVOID CONFLICTS WITH EXISTING REINFORCEMENT.
3. PROVIDE 3" COVER UNLESS OTHERWISE SPECIFIED.
4. PROVIDE STABILIZED SUBBASE IN ACCORDANCE WITH AREMA 8-27.4.3.
5. CONTRACTOR TO FIELD VERIFY ALL PROVIDED EXISTING DIMENSIONS.
6. PROVIDE FROST WALL ON NORTH AND SOUTH ENDS OF SLAB AS SHOWN ON SECTIONS B-B AND C-C. TAPER FROST WALL DOWN TO 1' WIDTH ON EAST END TO MATCH SLAB DIMENSION. ADJUST STIRRUPS AS REQUIRED.



REV	BY	DATE	DESCRIPTION
1	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
2	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
3	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
4	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
5	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
6	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
7	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
8	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
9	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
10	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
11	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
12	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
13	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
14	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
15	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
16	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
17	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
18	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
19	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
20	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
21	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
22	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
23	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
24	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
25	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
26	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
27	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
28	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
29	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
30	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
31	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
32	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
33	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
34	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
35	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
36	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
37	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
38	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
39	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
40	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
41	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
42	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
43	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
44	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION
45	TA	02-09-2024	PROPOSED CONCRETE SLAB EXTENSION



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND

EXISTING TOP OF CONCRETE

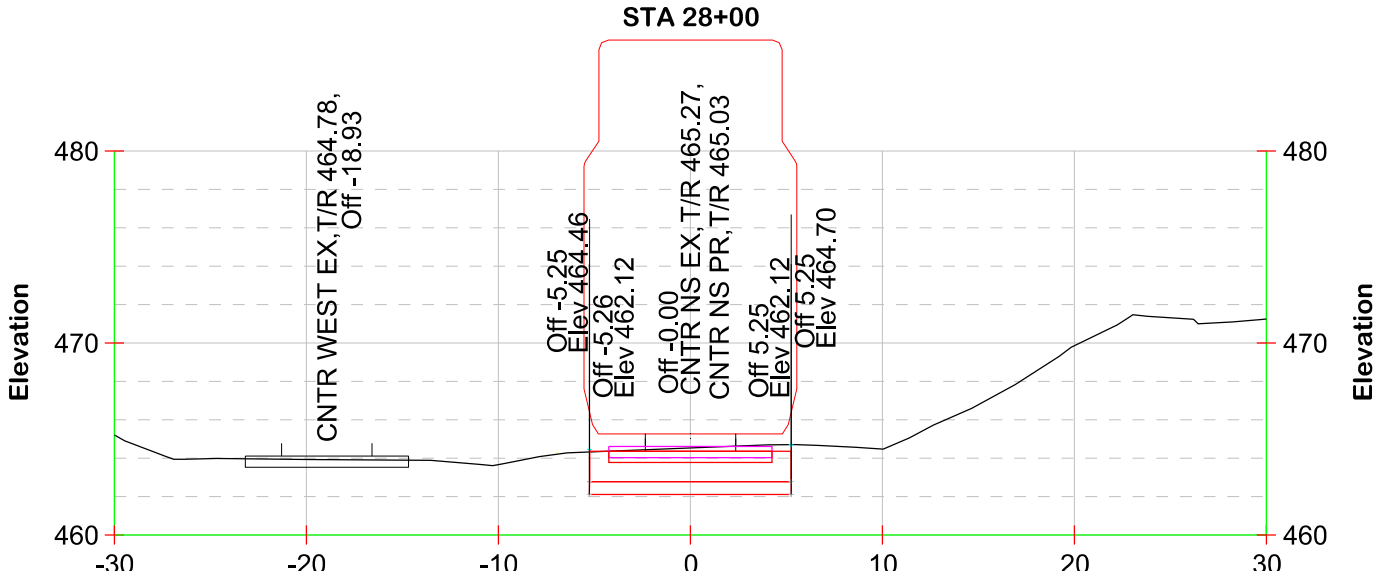
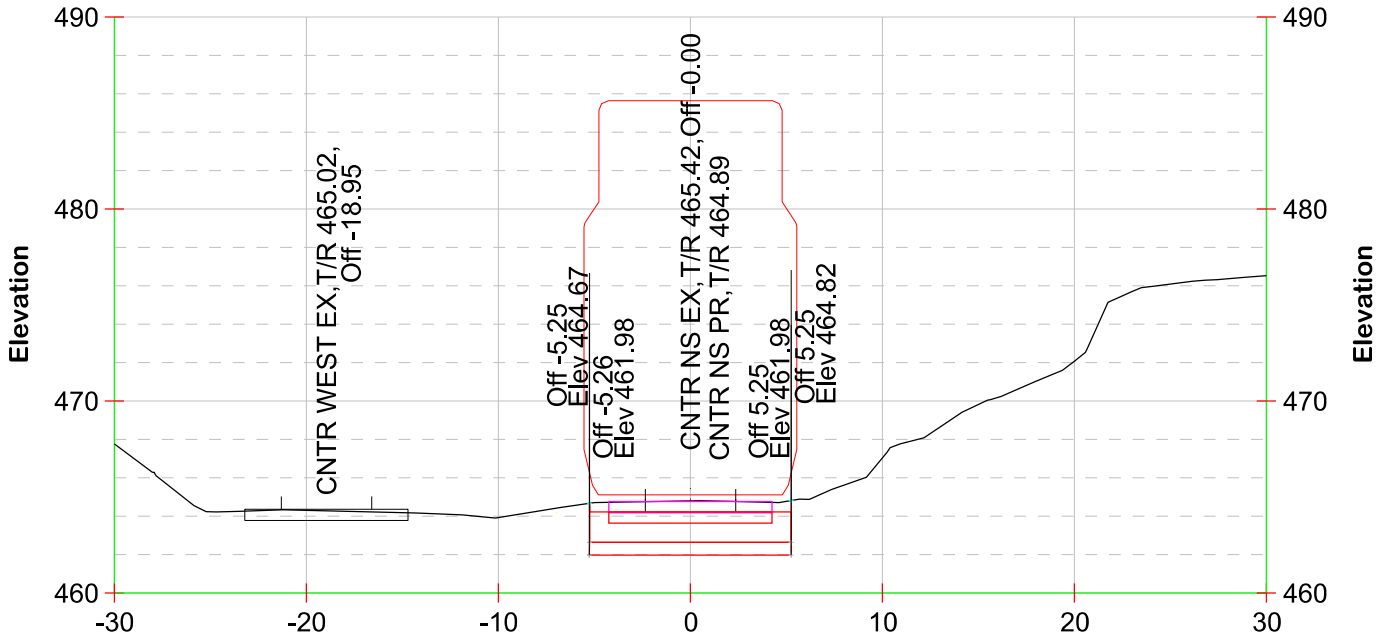
EXISTING TOP OF STEEL BEAMS

EXISTING TRACK SECTION TO BE REMOVED

EXISTING SURFACE

EXISTING TRACK

PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB



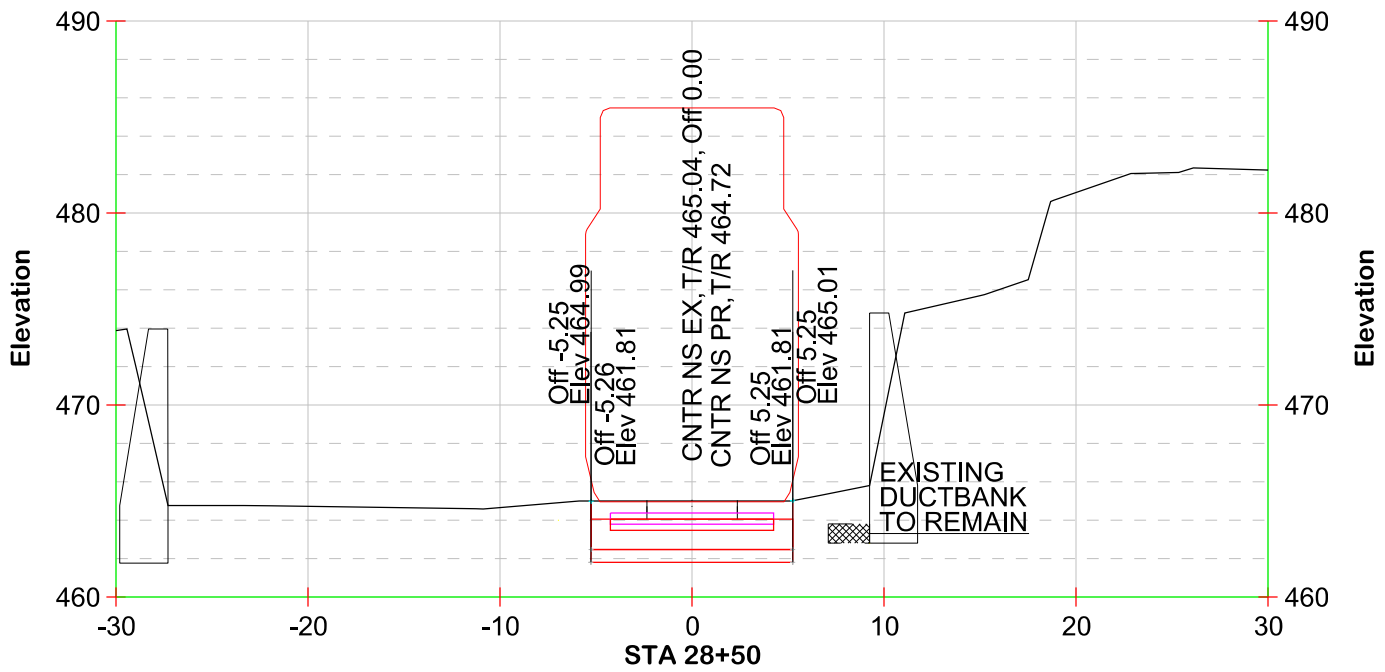
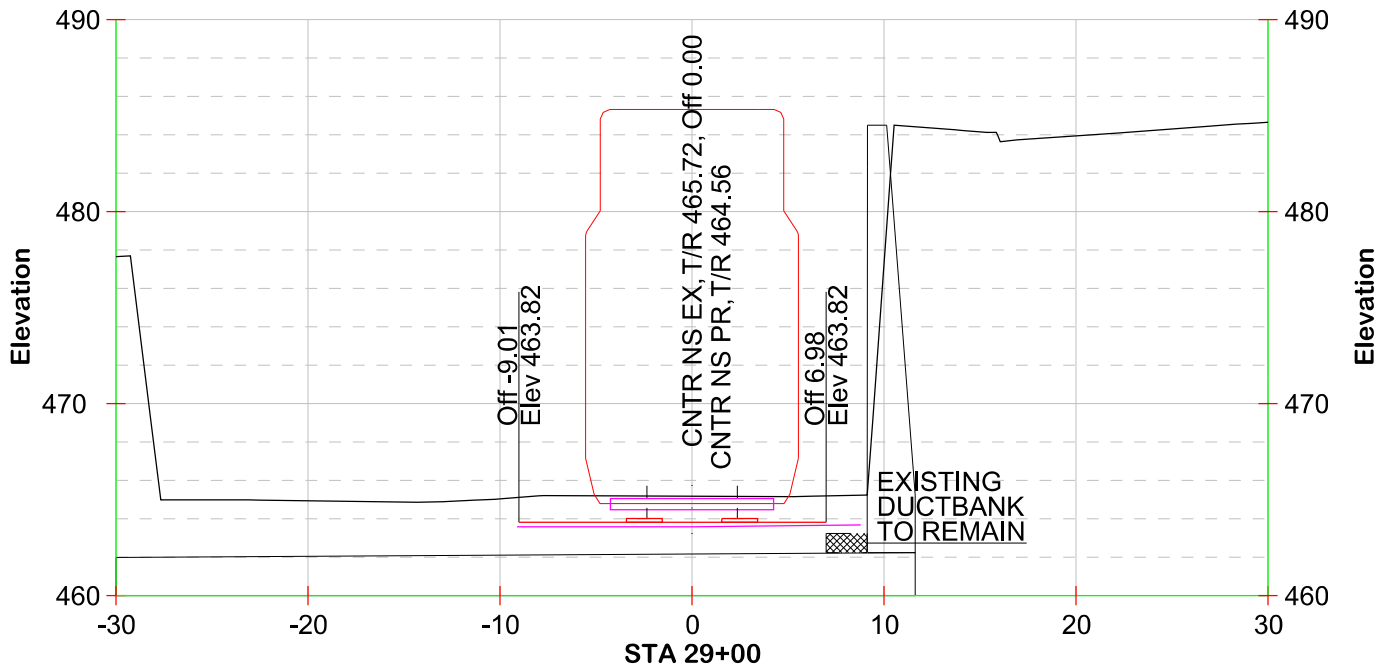
SCALE: 1" = 10'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN



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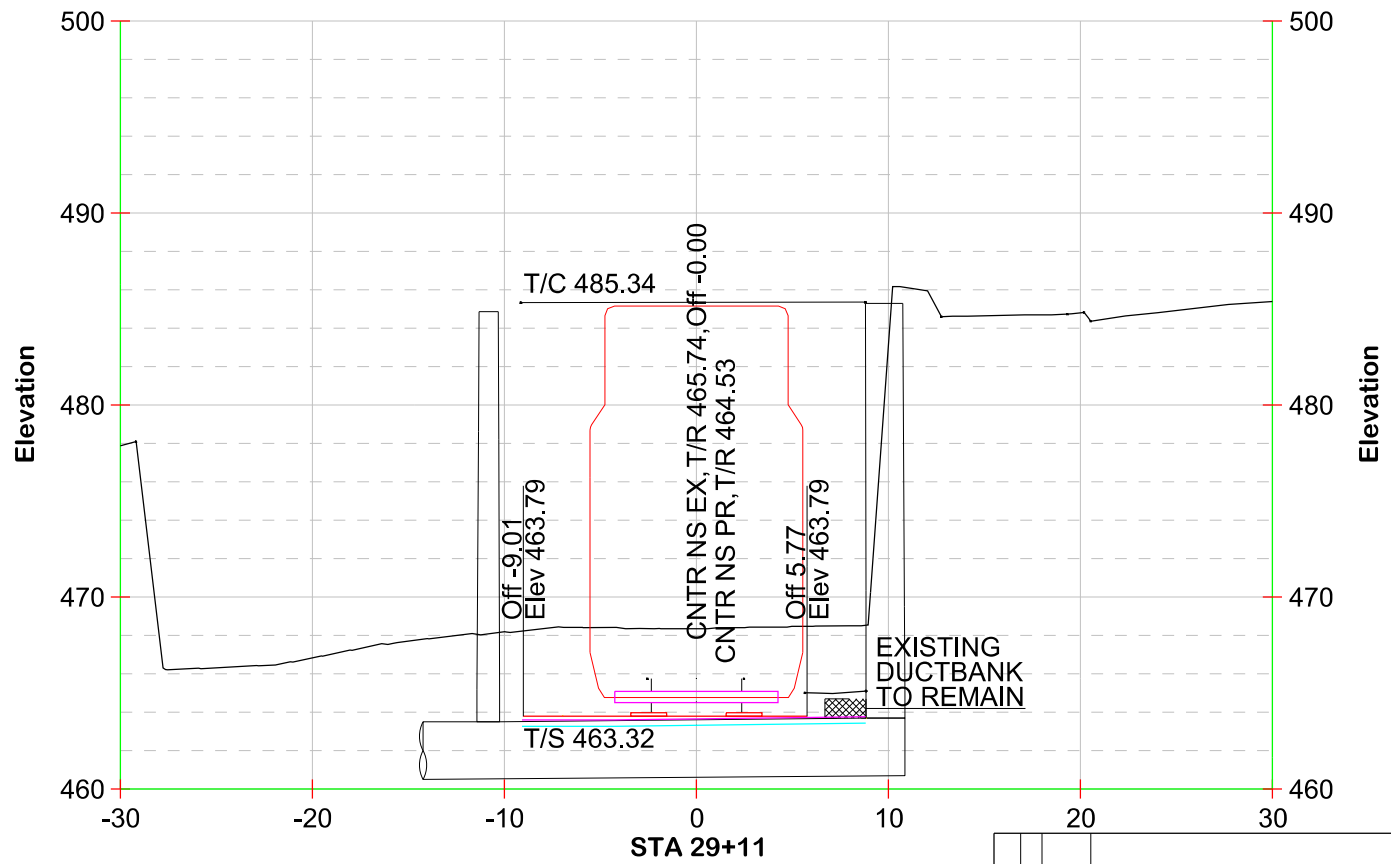
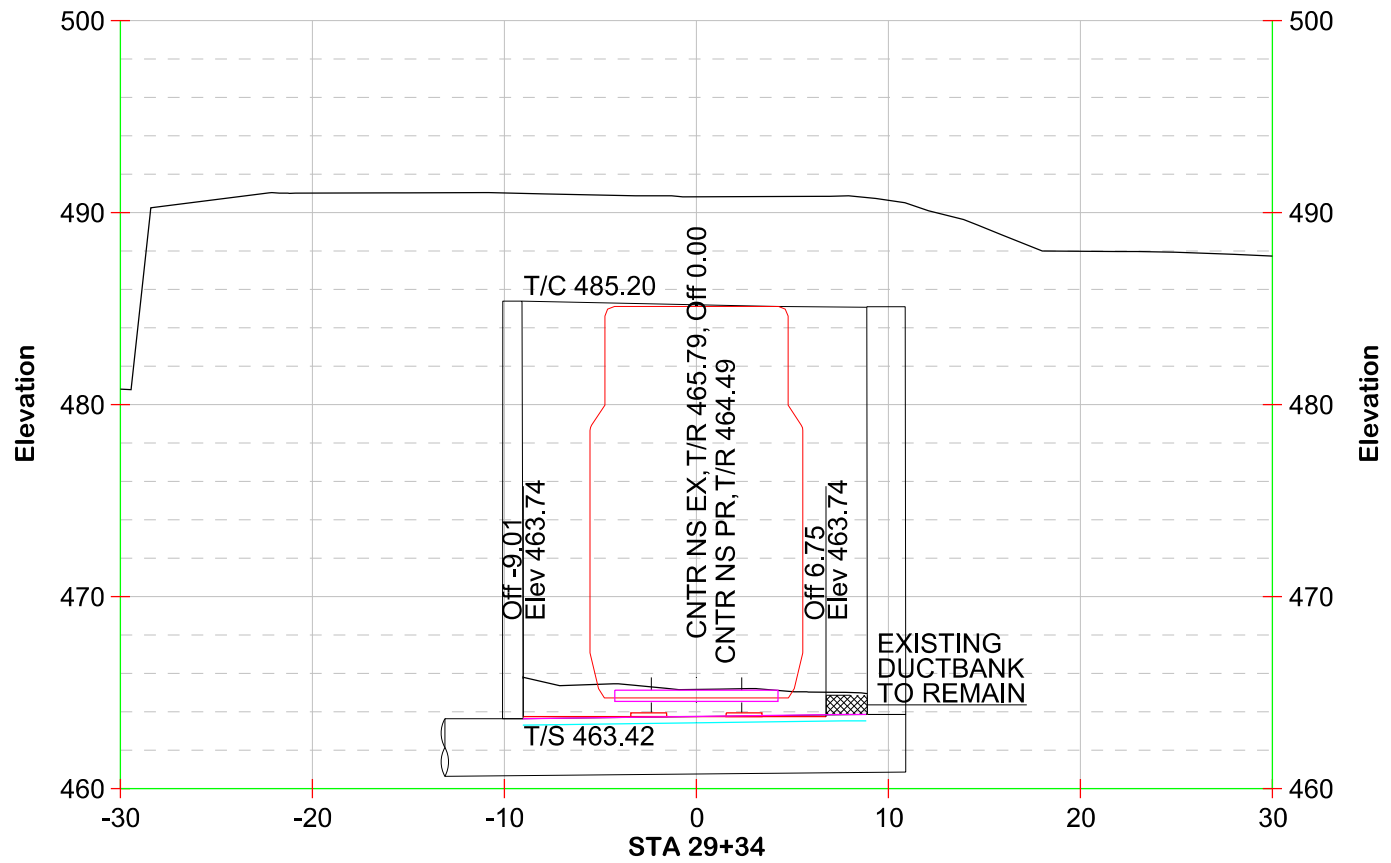
OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
G&W PW, GARDNER BRANCH SUBDIV			
TITLE TRACK CROSS SECTIONS			
DGN	DD	PTD No.	D3120
DWN	BC	FILE No.	TRK1114427
CHK	NB	DATE	02-09-2024
DRAWING NUMBER			TB-2022-11
CADD FILE: #FILE#			MILE POST MP 0.6-2.0
LAST SAVED: #LASTSAVED#			SHEET 28 OF 45



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND	
	EXISTING TOP OF CONCRETE
	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB



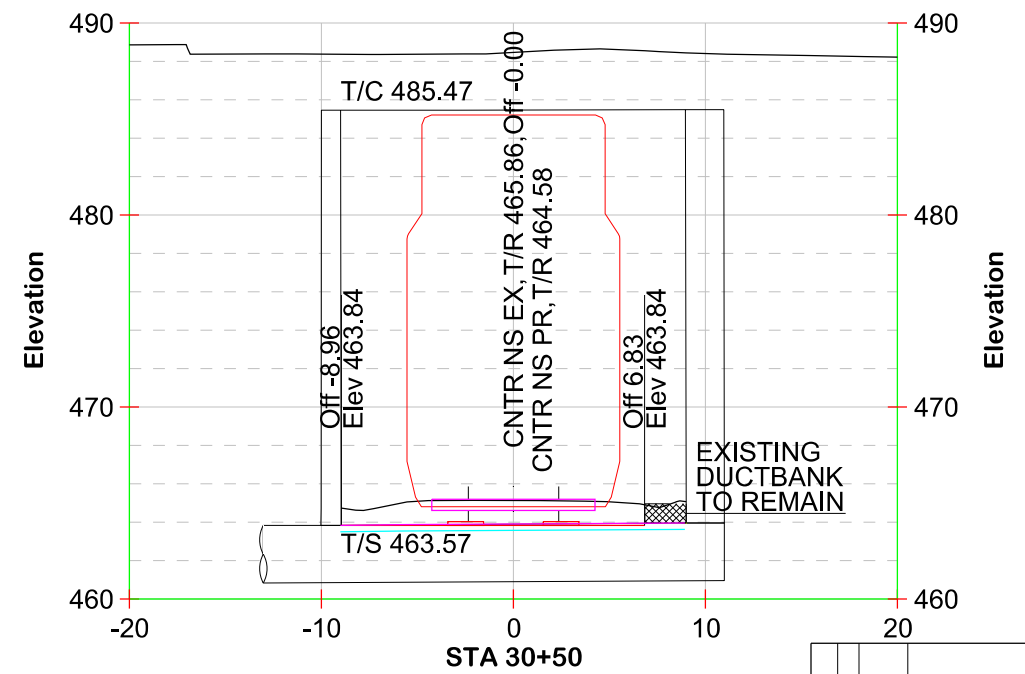
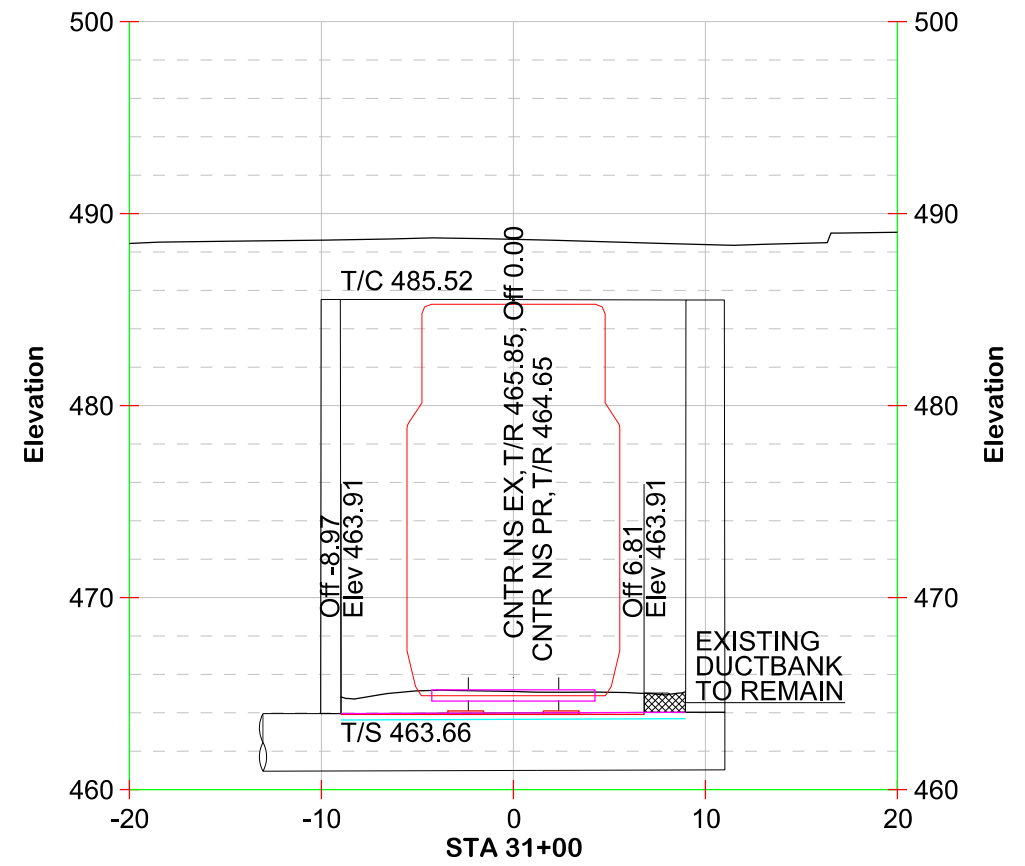
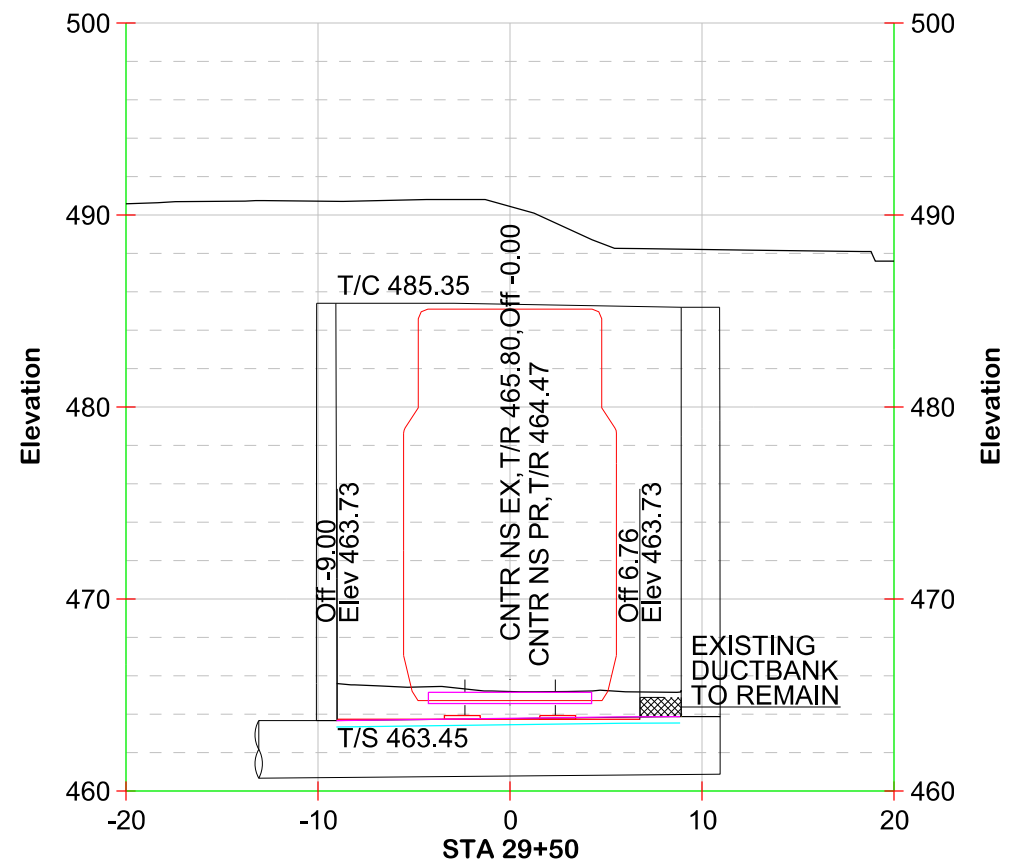
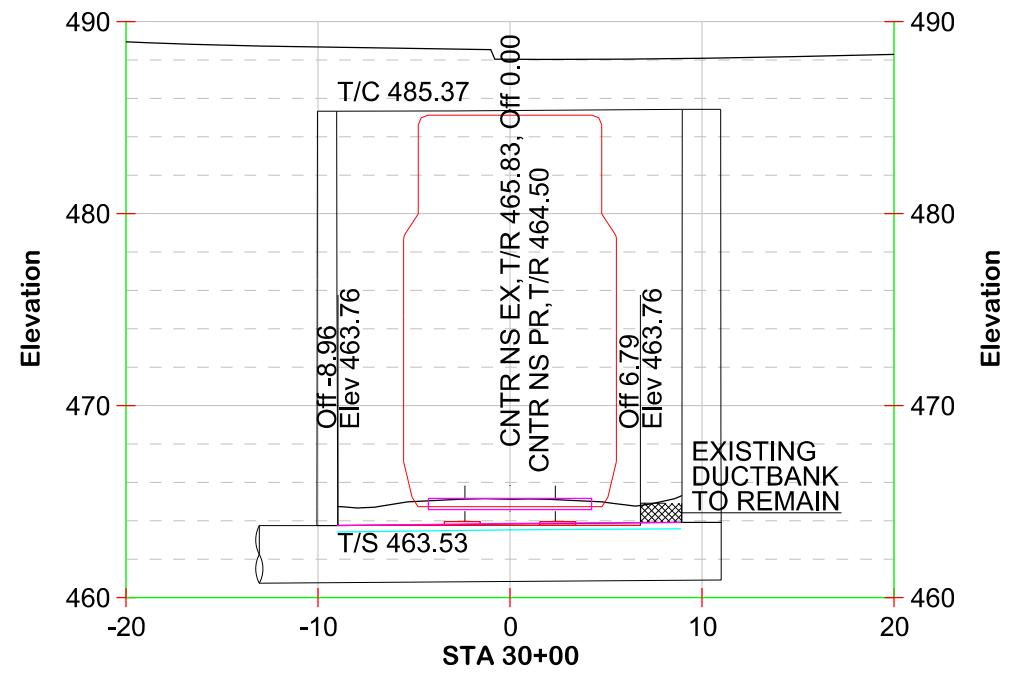
SCALE: 1" = 10'



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OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

MODEL NAME:
DATE PRINTED: 5/17/2024

REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MHW
DWN	BC	FILE No. TRK1114427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
CADD FILE: LAST SAVED: LAST SAVED DATE:			TB-2022-11
			SHEET 29 OF 45

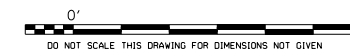


NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT
TRACK CENTERLINE.

LEGEND

- | | | | |
|---|--------------------------------------|---|---|
| | EXISTING TOP OF CONCRETE | | EXISTING SURFACE |
| | EXISTING TOP OF STEEL BEAMS | | EXISTING TRACK |
|  | EXISTING TRACK SECTION TO BE REMOVED | | PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB |

SCALE: 1" = 10'

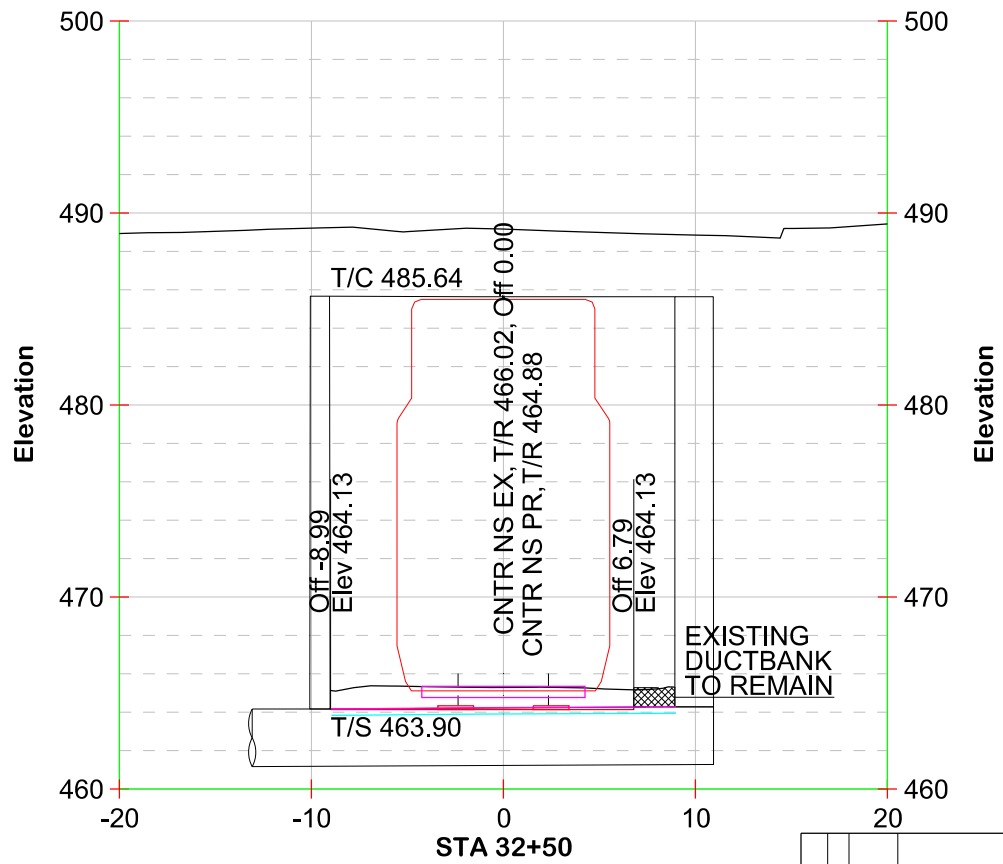
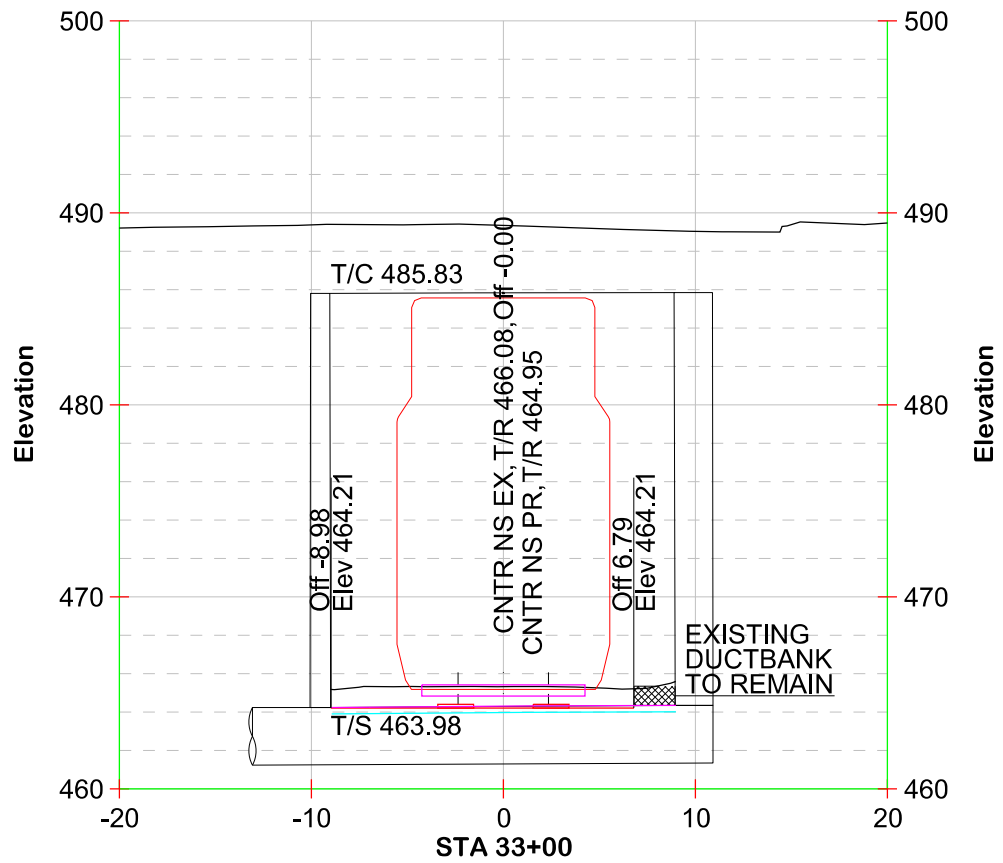
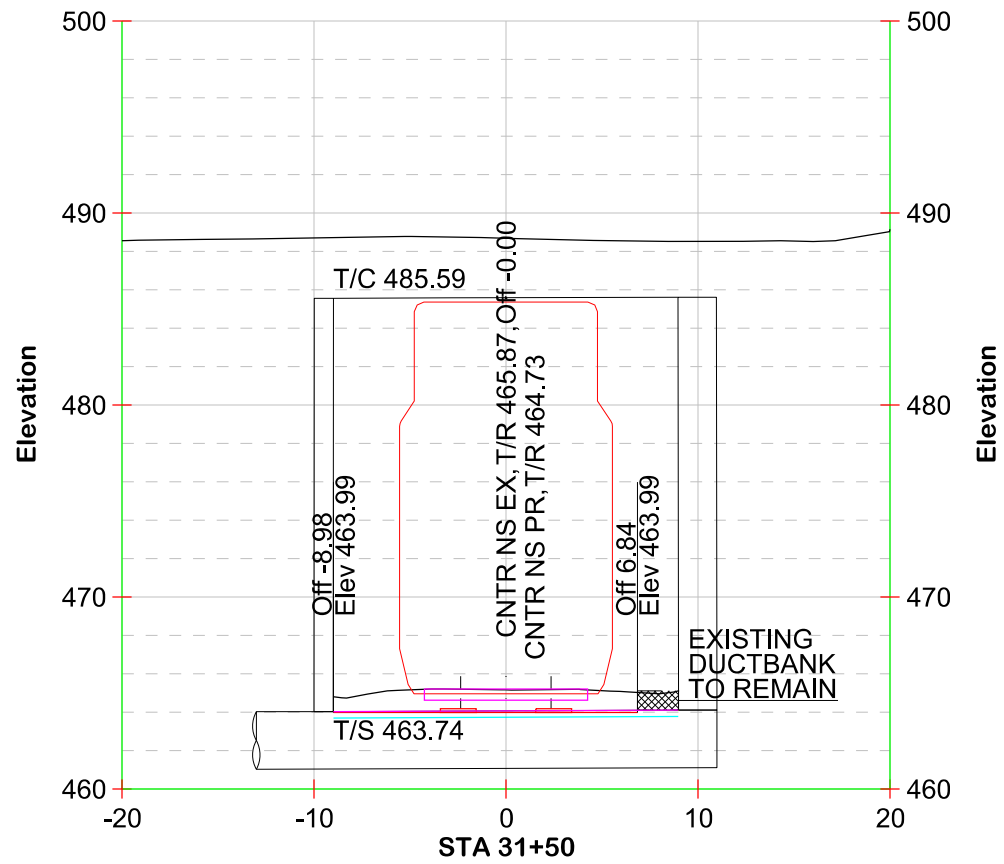
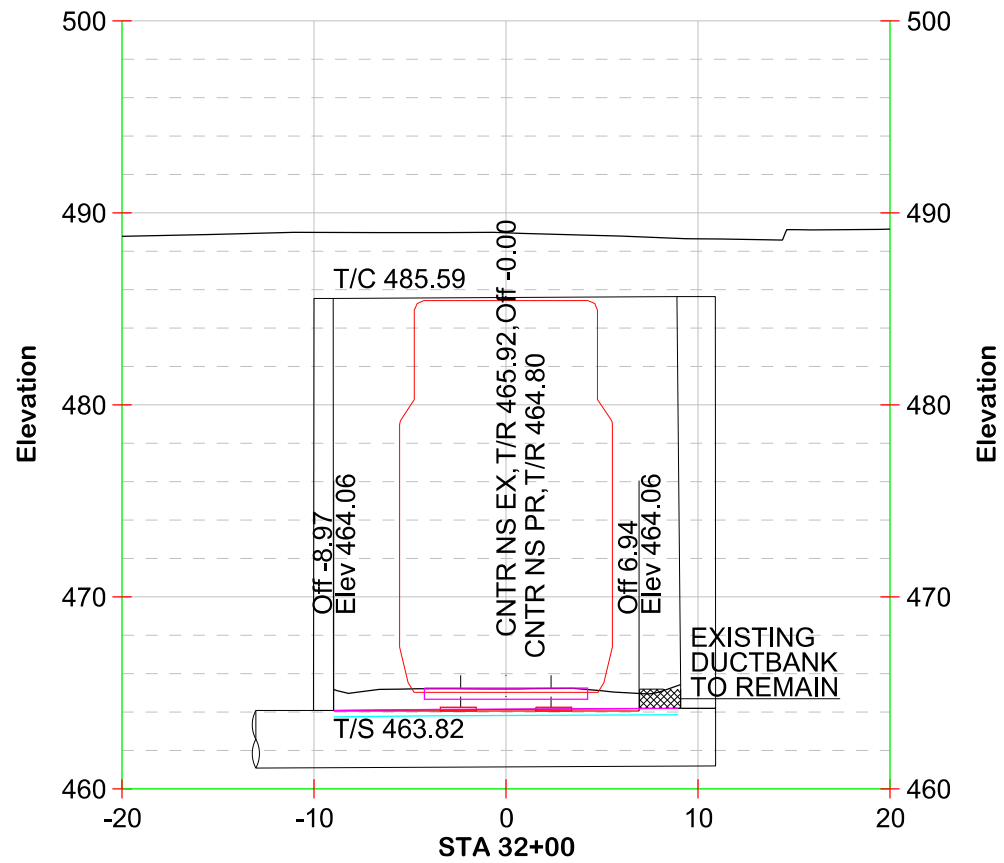


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MODEL NAME: \$MODELNAME\$
DATE PRINTED: 5/17/2024

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION		
LOCATION G&W PW, GARDNER BRANCH SUBDIV					
TITLE TRACK CROSS SECTIONS					
DGN	DD	PID No.	D3120	VERN	MILE POST
DWN	BC	FILE No.	TRK114422	DRAWING NUMBER	MP 0.6-2.0
CHK	NB	DATE	02-09-2024	TB-2022-11	
CADD	FILE#	#FILE#			
LAST	SAVED:	#LASTSAVEDDATE#	SHEET 30 OF 45		



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

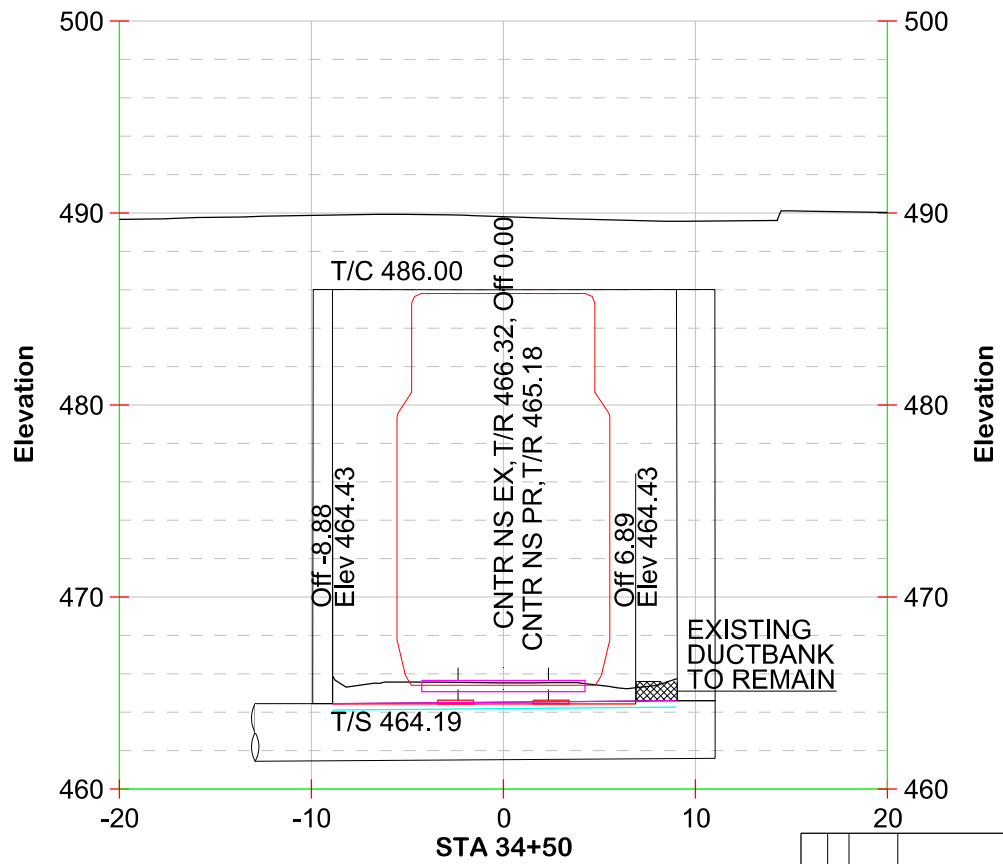
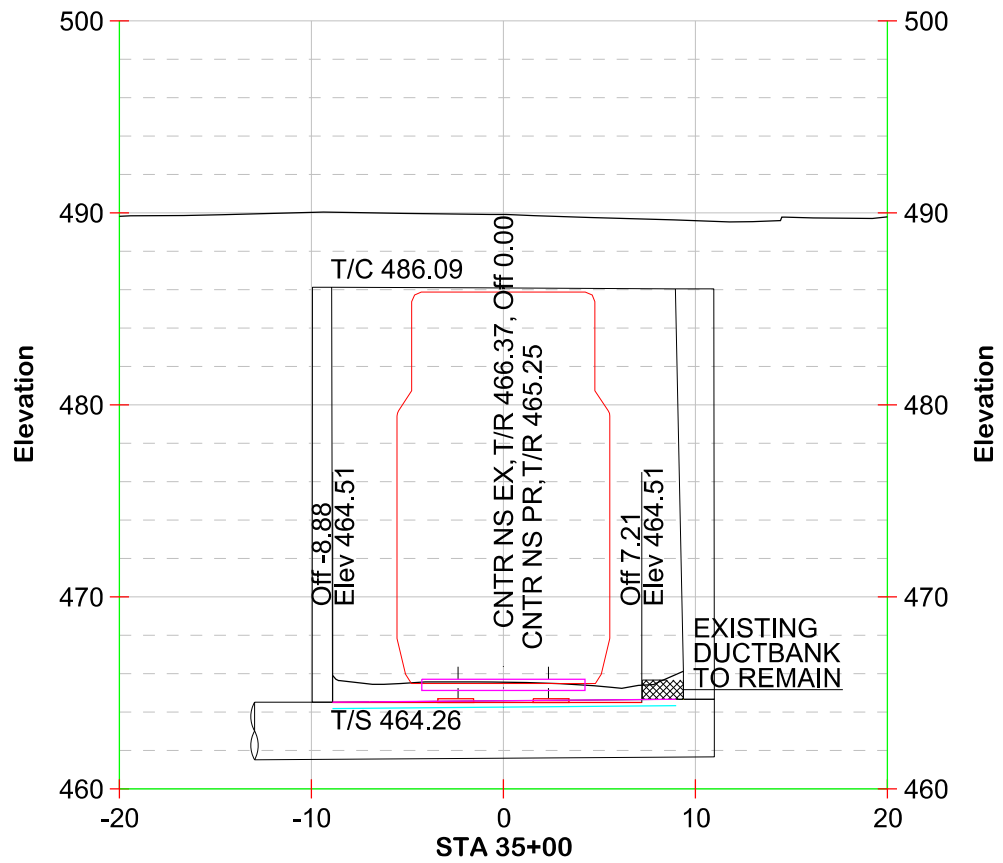
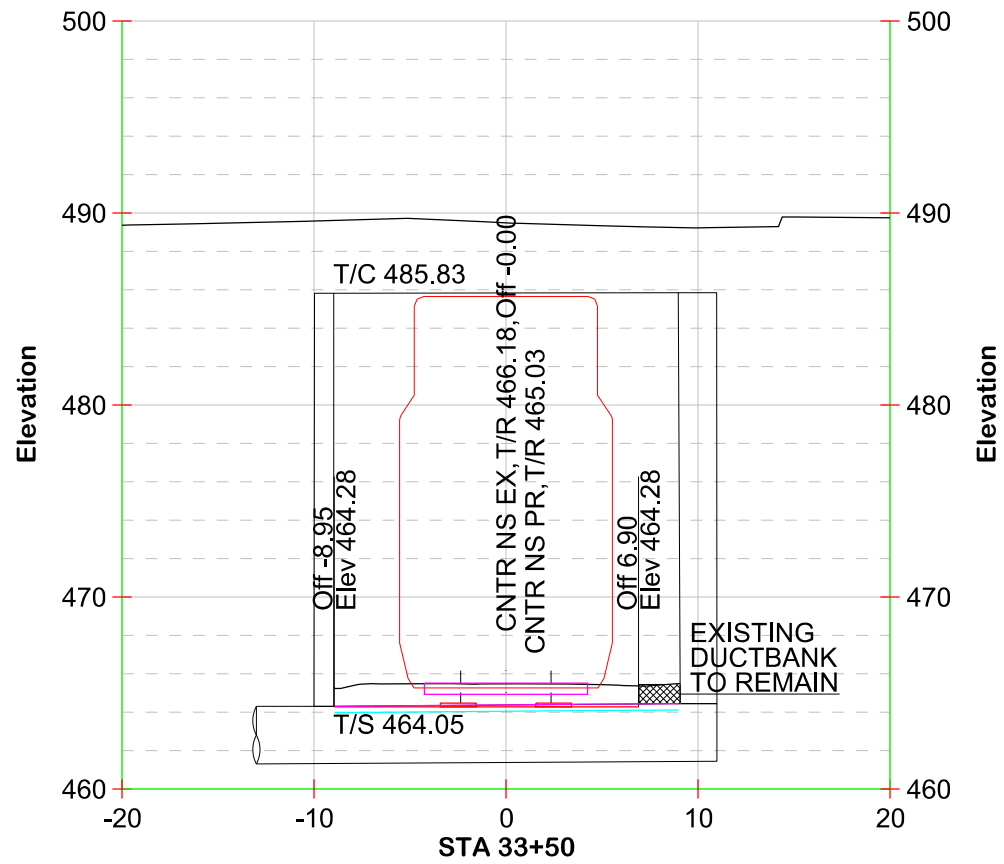
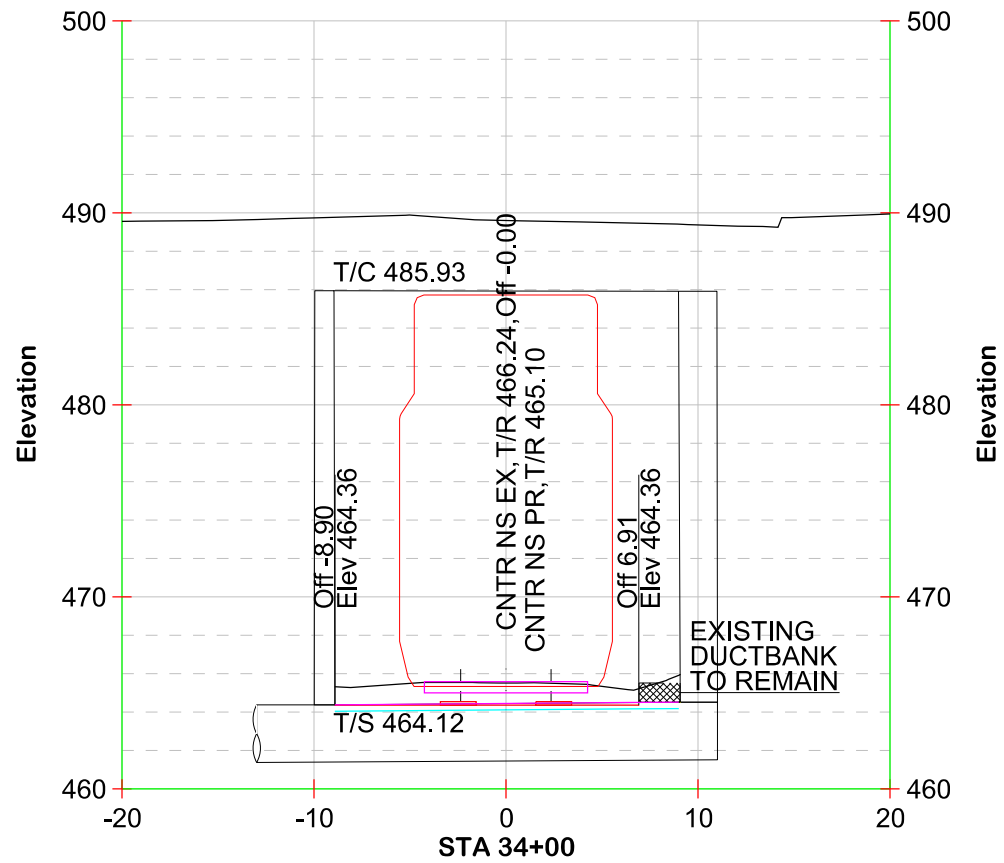
LEGEND	
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	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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REV.	BY	DATE	DESCRIPTION
1	DD	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MILE POST MP 0.6-2.0
DWN	BC	FILE No. TRKIII4427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
CADD FILE: *FILE* LAST SAVED: *LASTSAVED* SHEET 31 OF 45			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

- LEGEND
- EXISTING TOP OF CONCRETE
 - EXISTING TOP OF STEEL BEAMS
 - EXISTING TRACK SECTION TO BE REMOVED

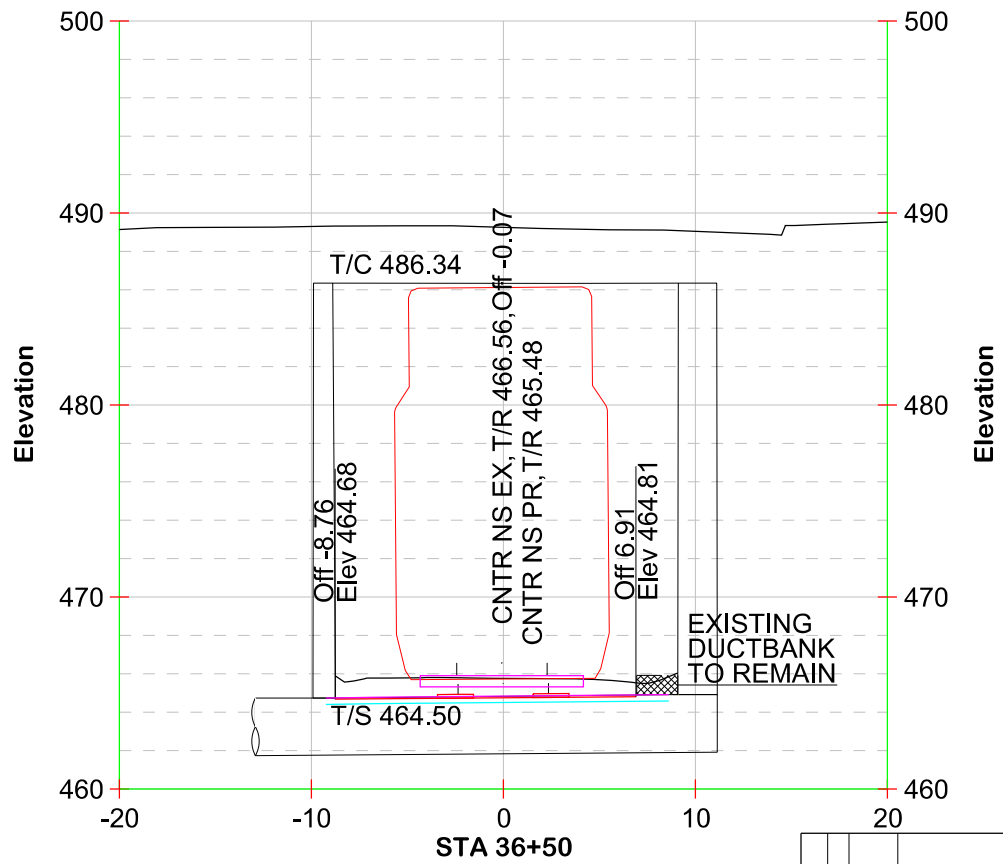
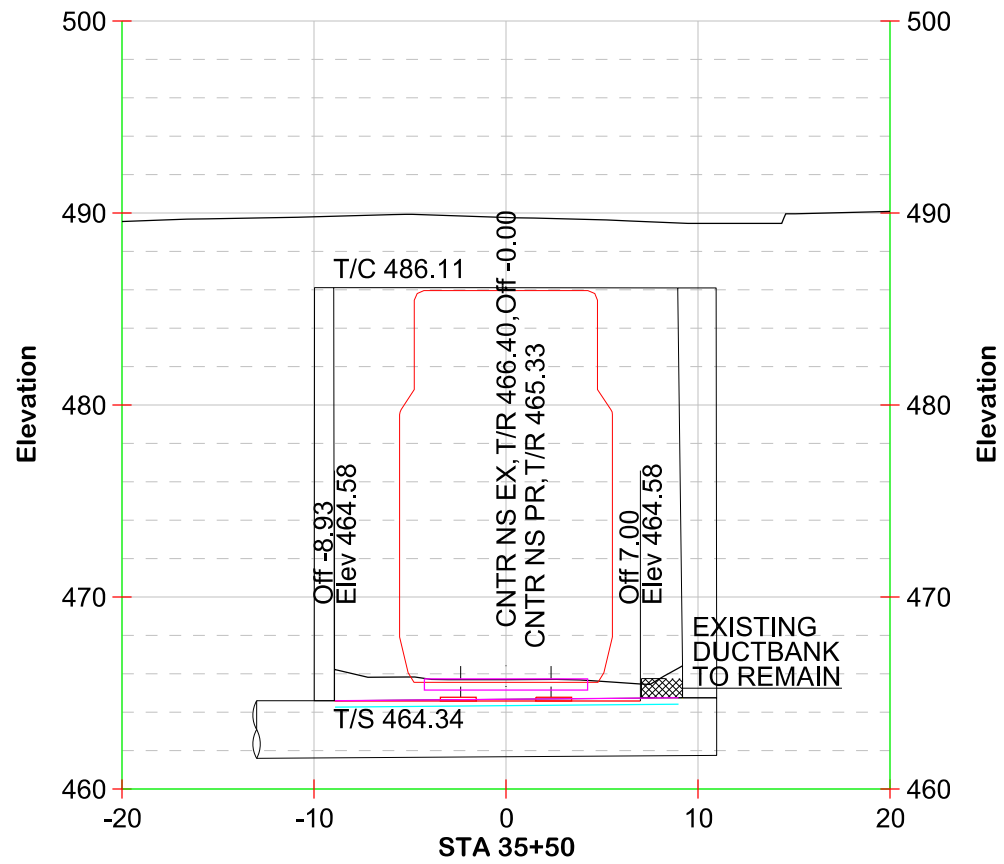
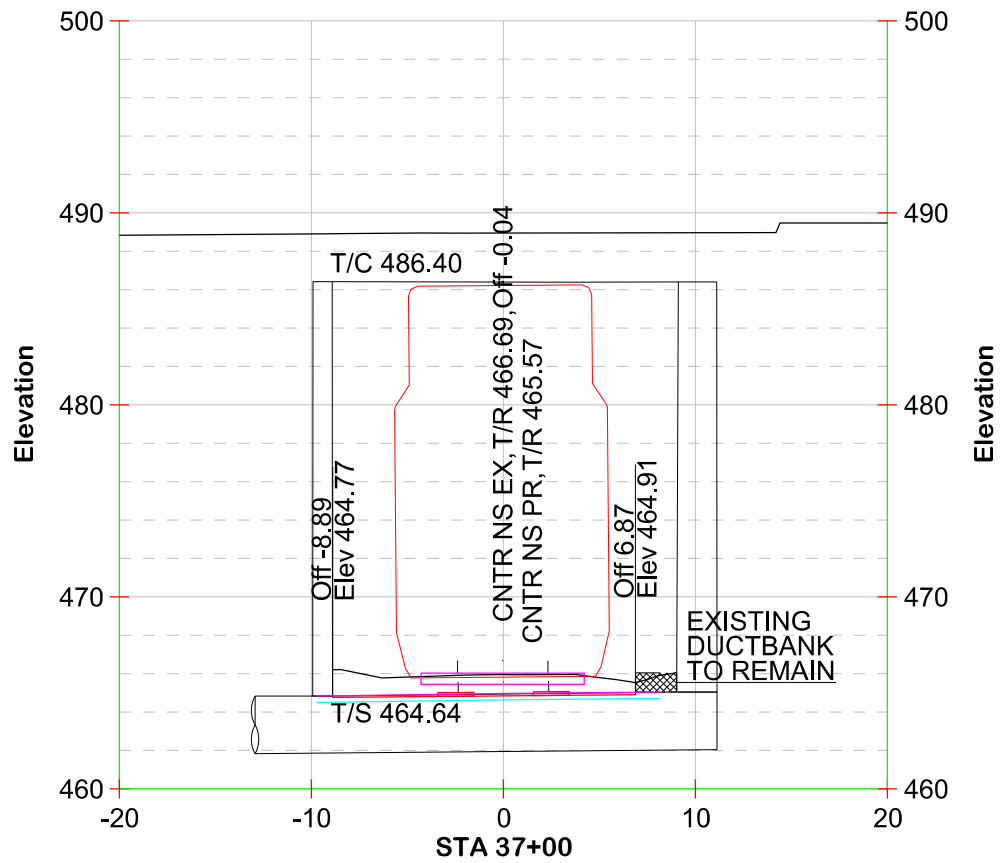
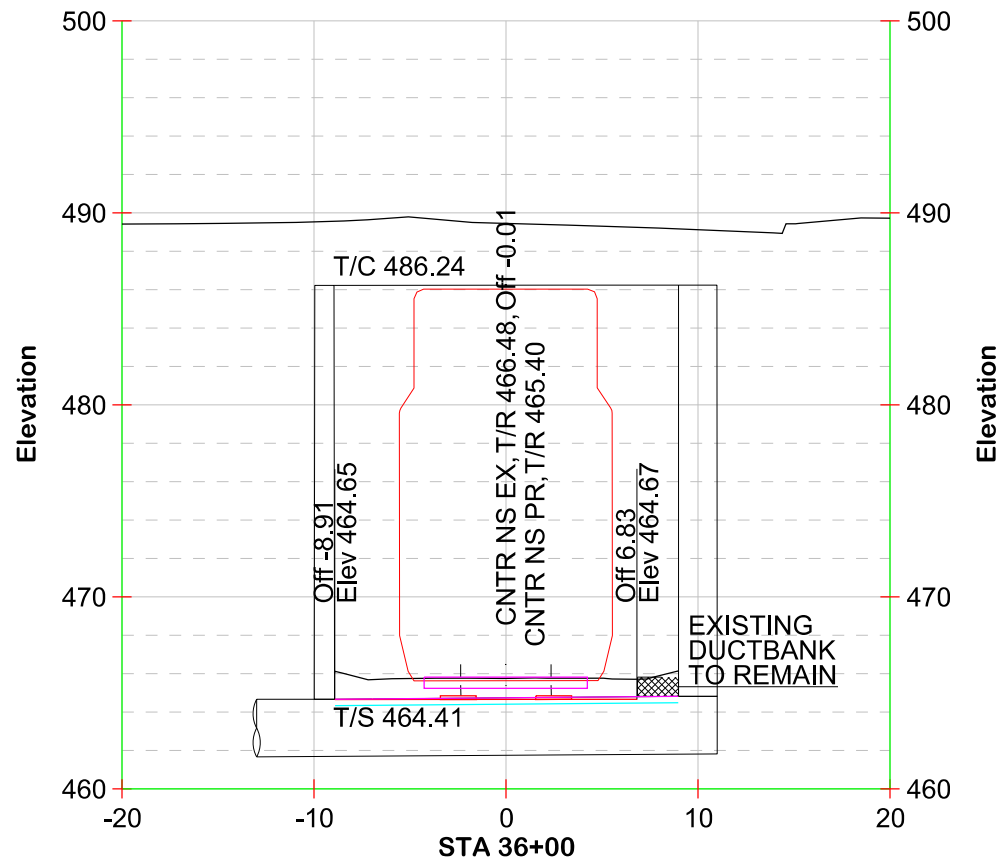
- EXISTING SURFACE
- EXISTING TRACK
- PROPOSED TRACKWORK/PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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REV.	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MPN
DWN	BC	FILE No. TRKIII4427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
CADD FILE: TB-2022-11			LAST SAVED: 5/17/2024
SHEET 32 OF 45			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

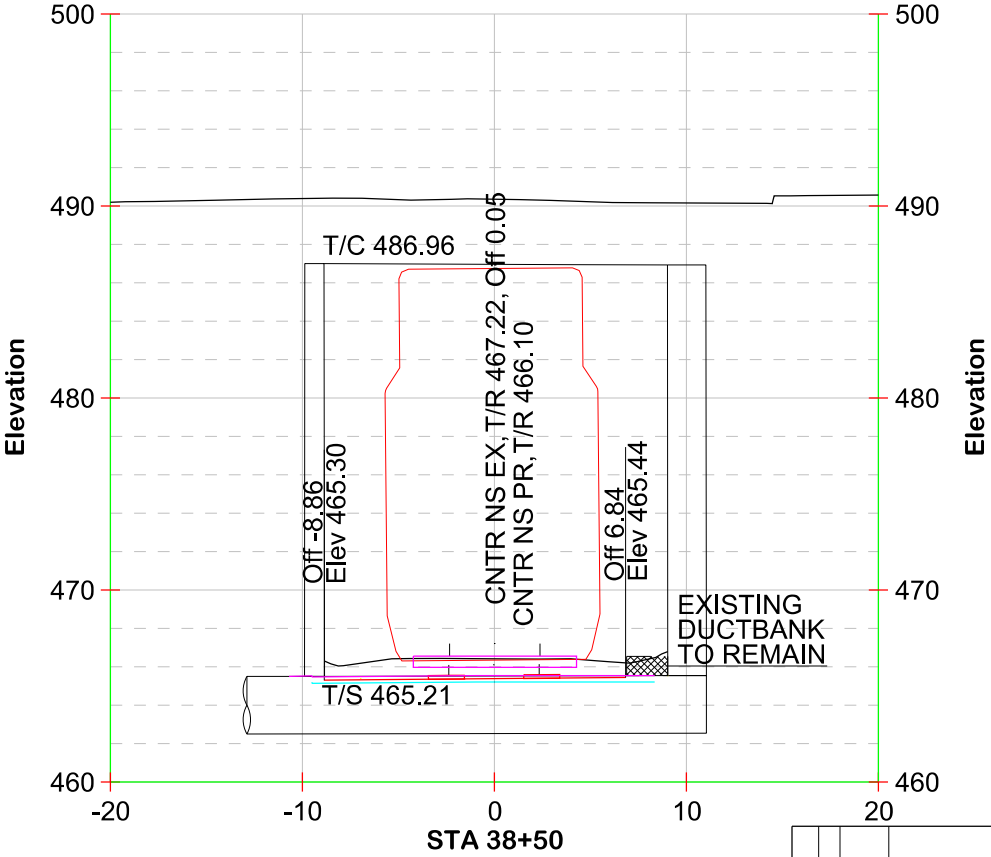
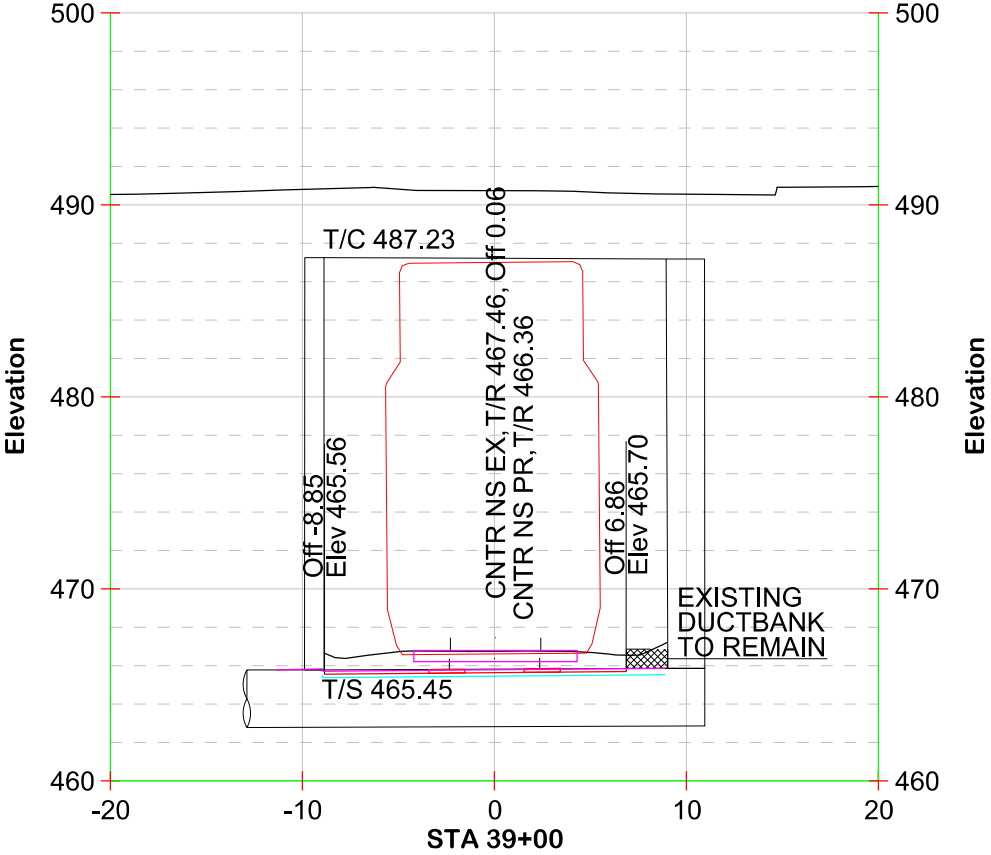
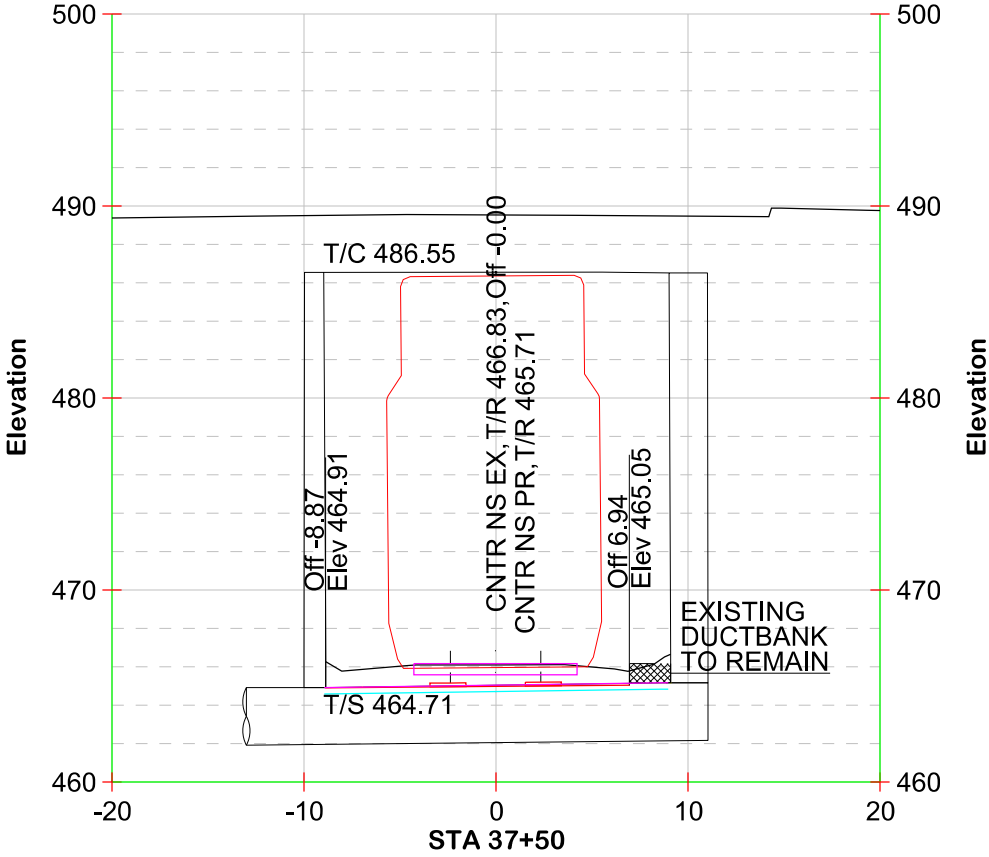
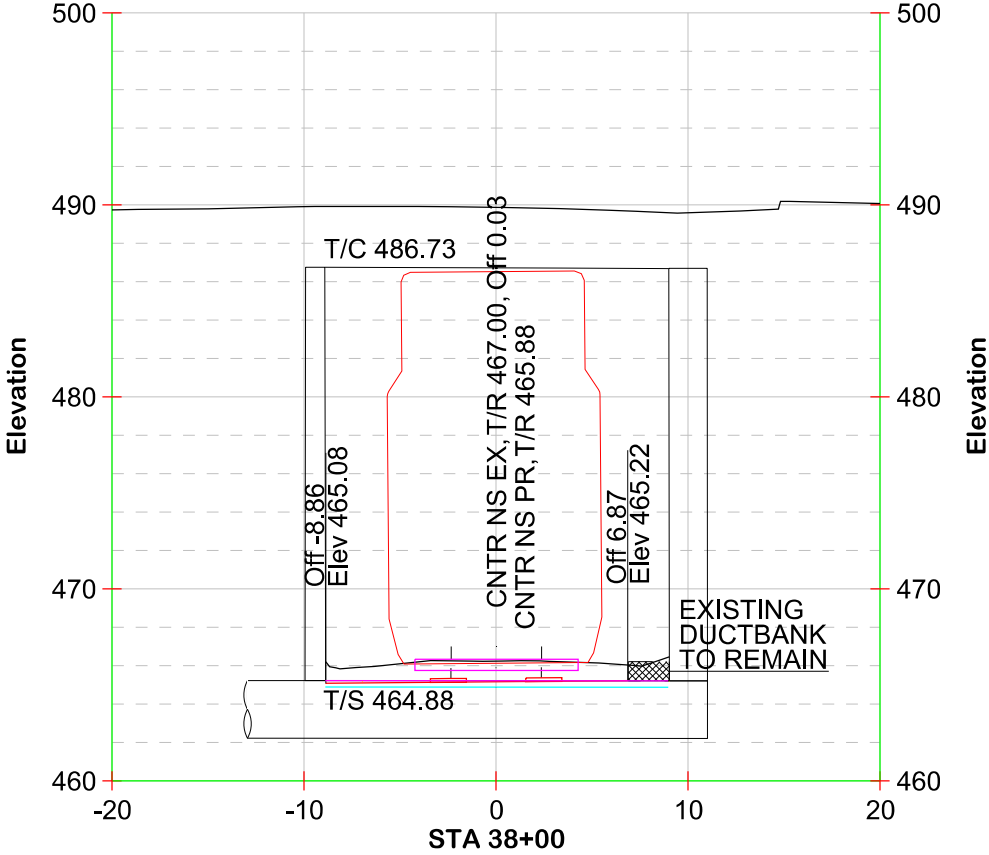
LEGEND	
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	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'
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REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MILE POST MP 0.6-2.0
DWN	BC	FILE No. TRKIII4427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
CADD FILE: LAST SAVED:			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

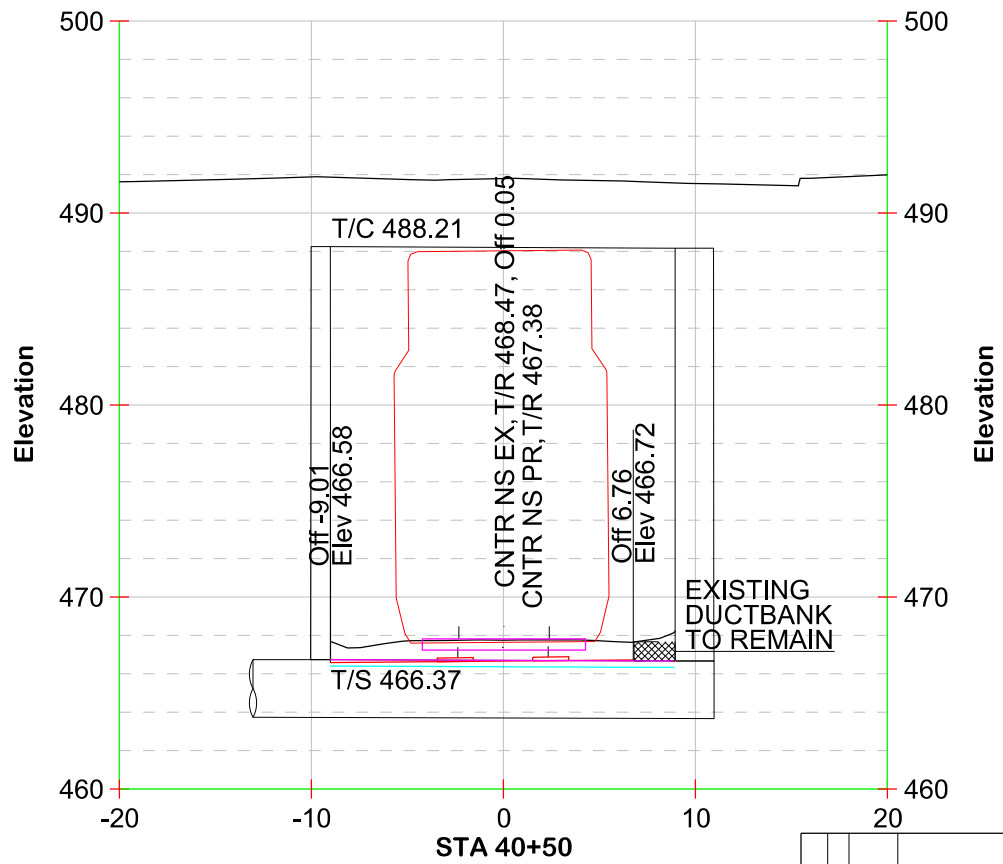
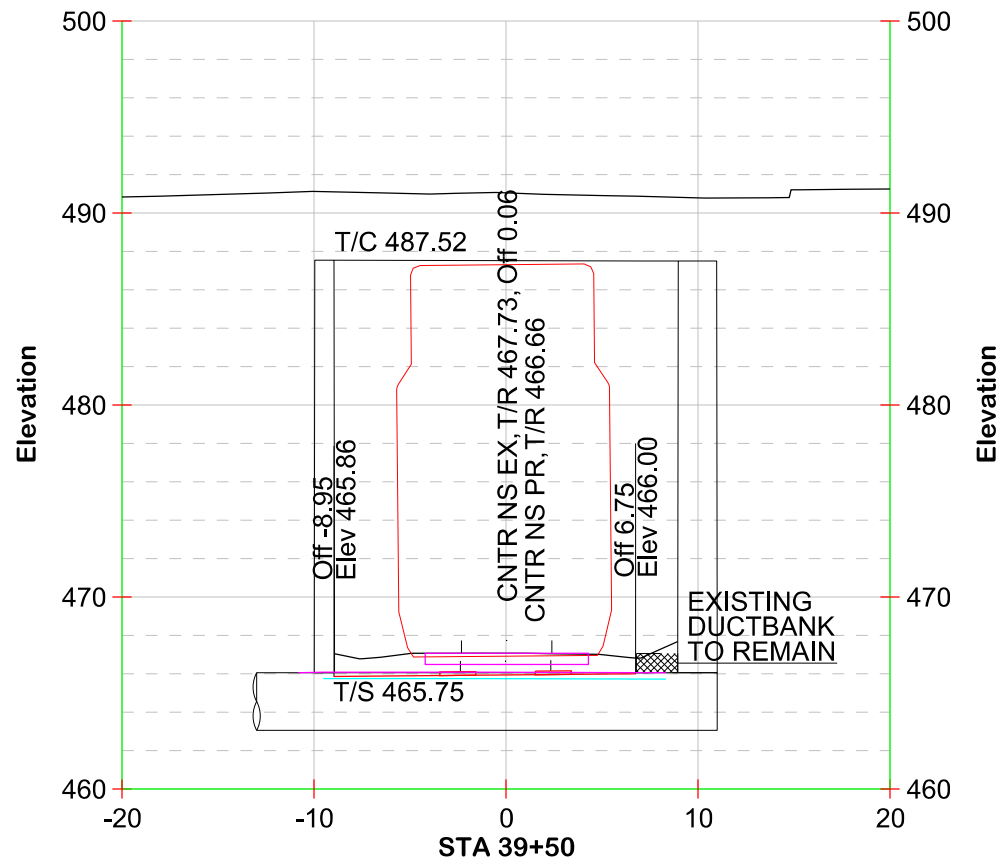
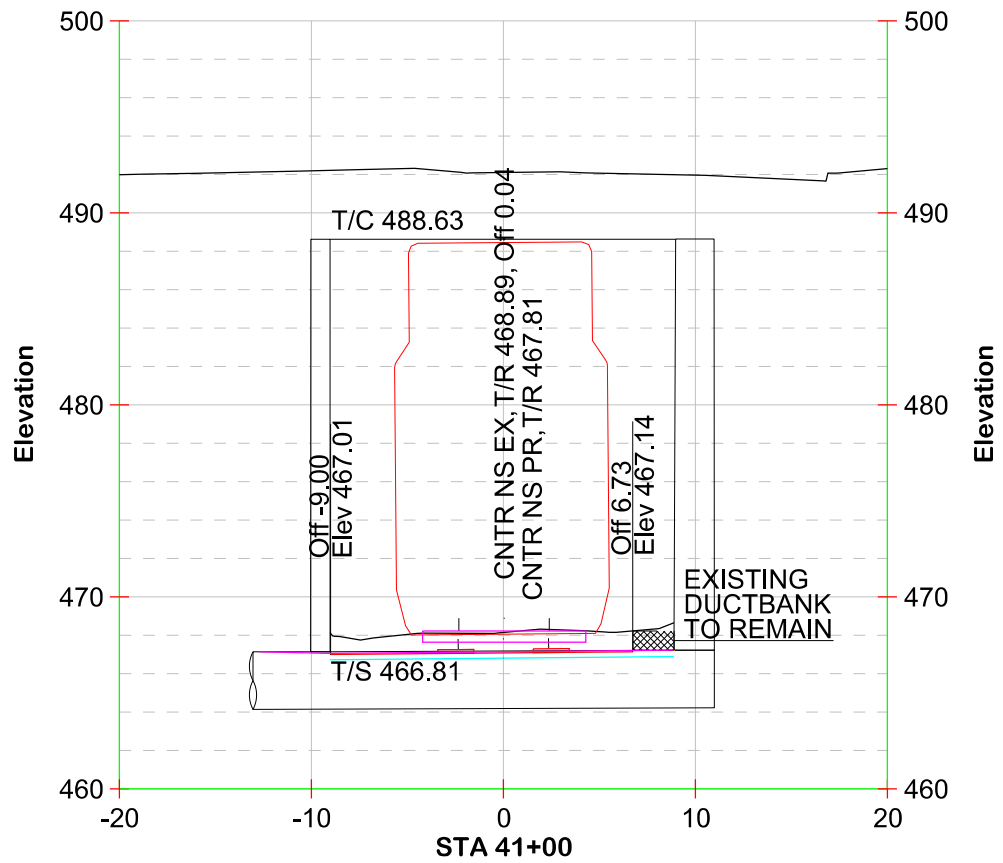
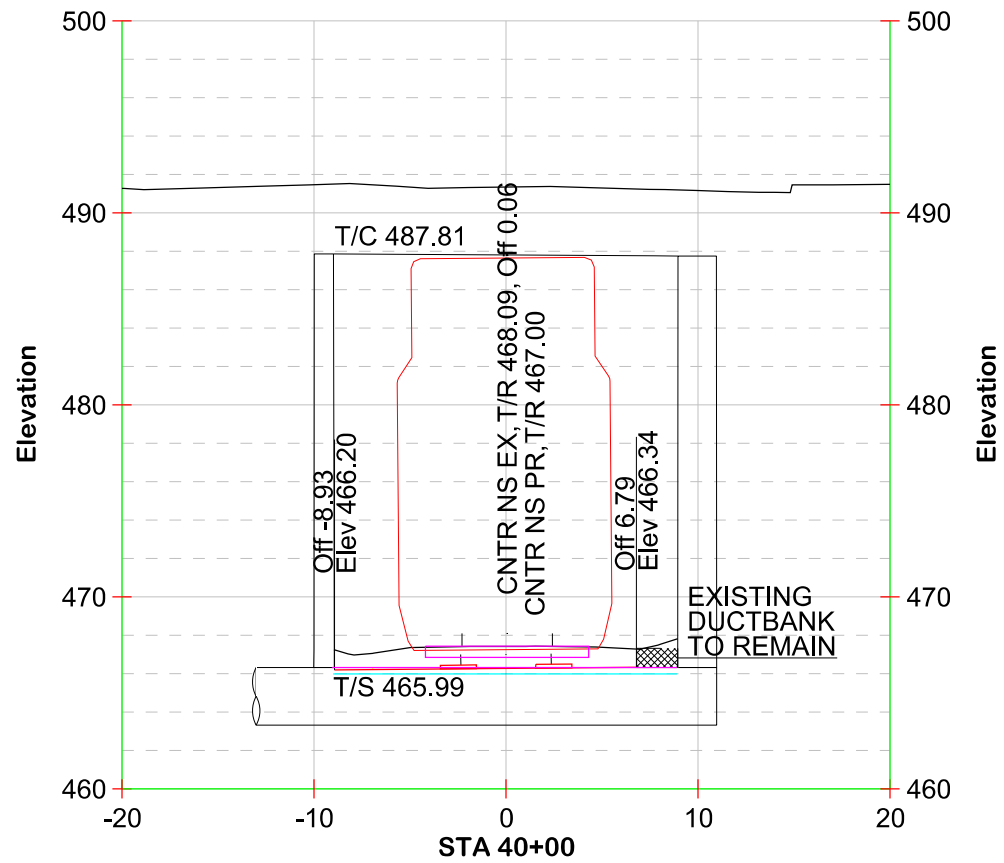
LEGEND	
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	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN



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REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No.	D3120
DWN	BC	FILE No.	TRKIII4427
CHK	NB	DATE	02-09-2024
CADD FILE:	FILE	LAST SAVED:	LAST SAVED
MILE POST			MP 0.6-2.0
DRAWING NUMBER			TB-2022-11
SHEET			34 OF 45



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

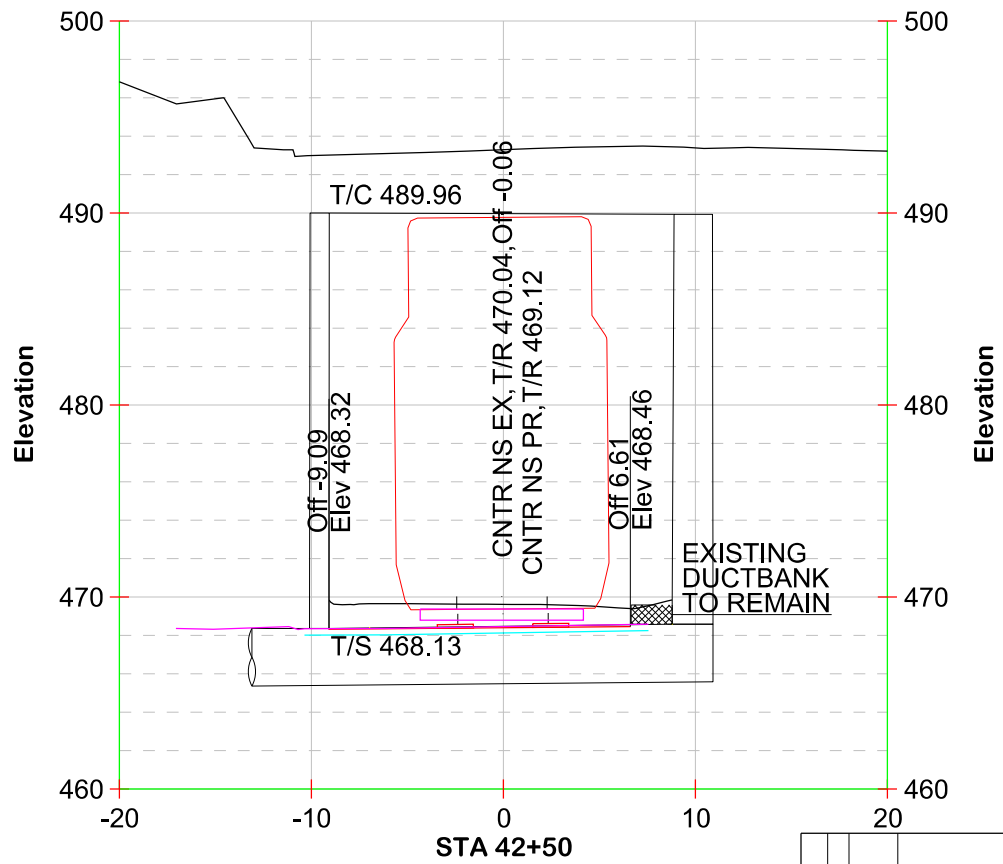
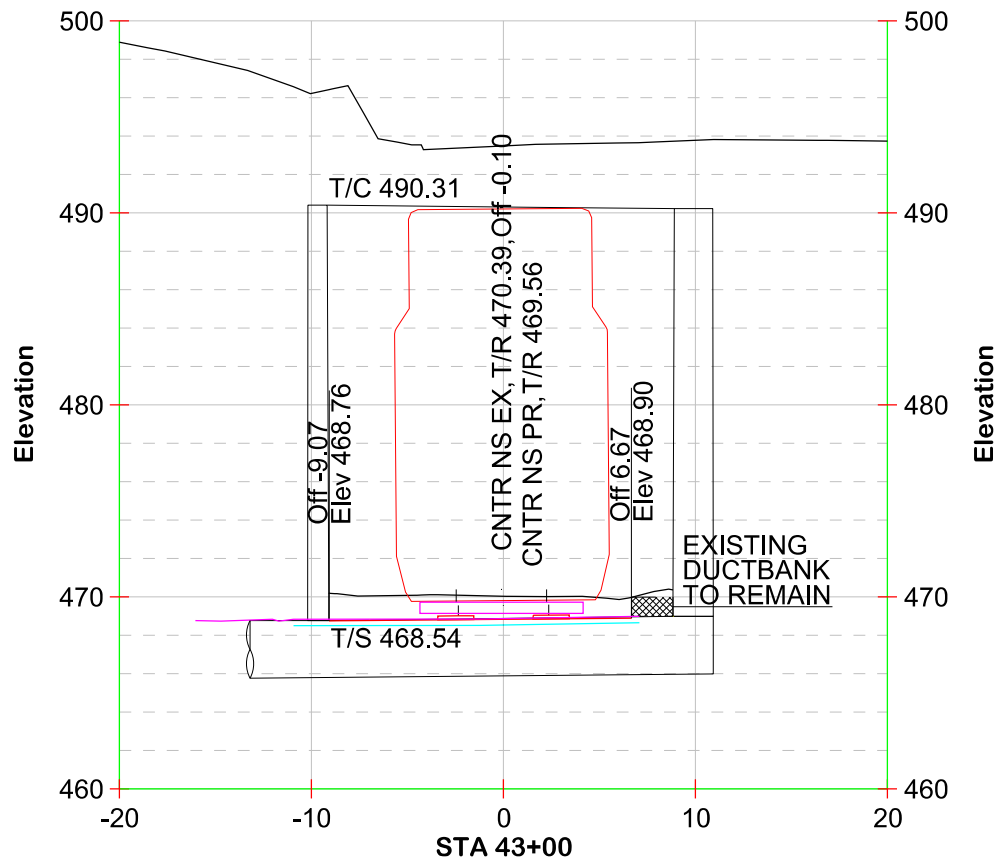
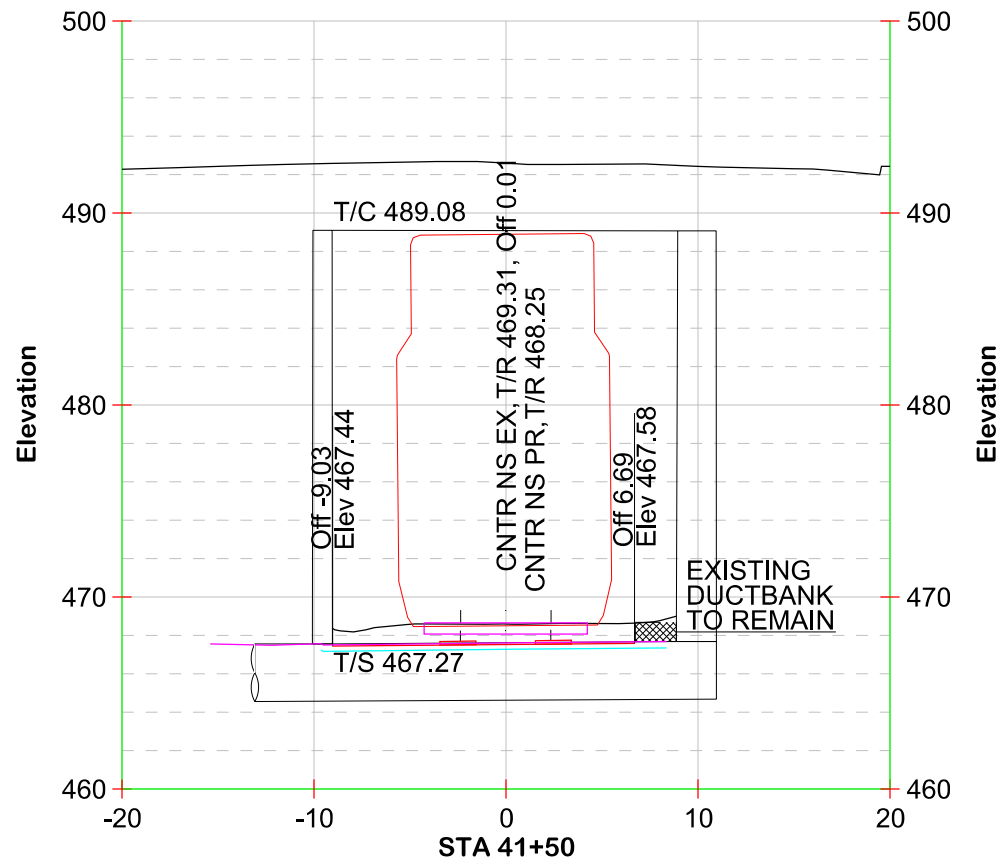
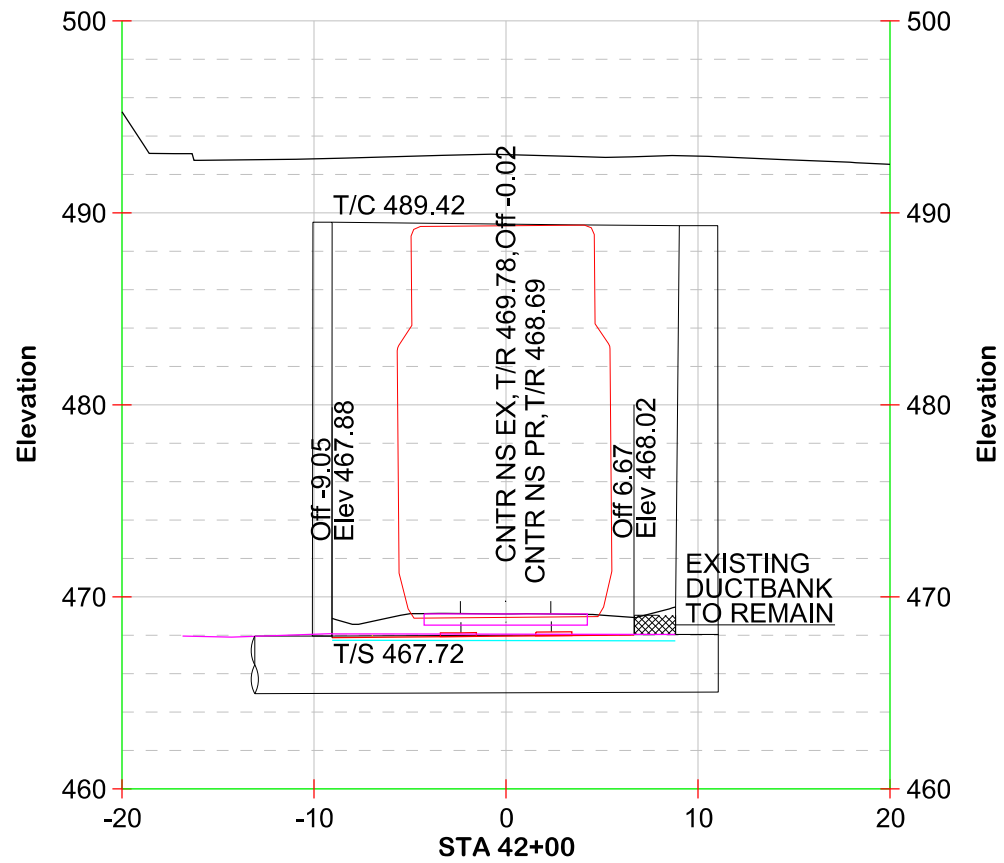
LEGEND	
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	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MP 0.6-2.0
DWN	BC	FILE No. TRK1114427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER TB-2022-11
SHEET 35 OF 45			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND

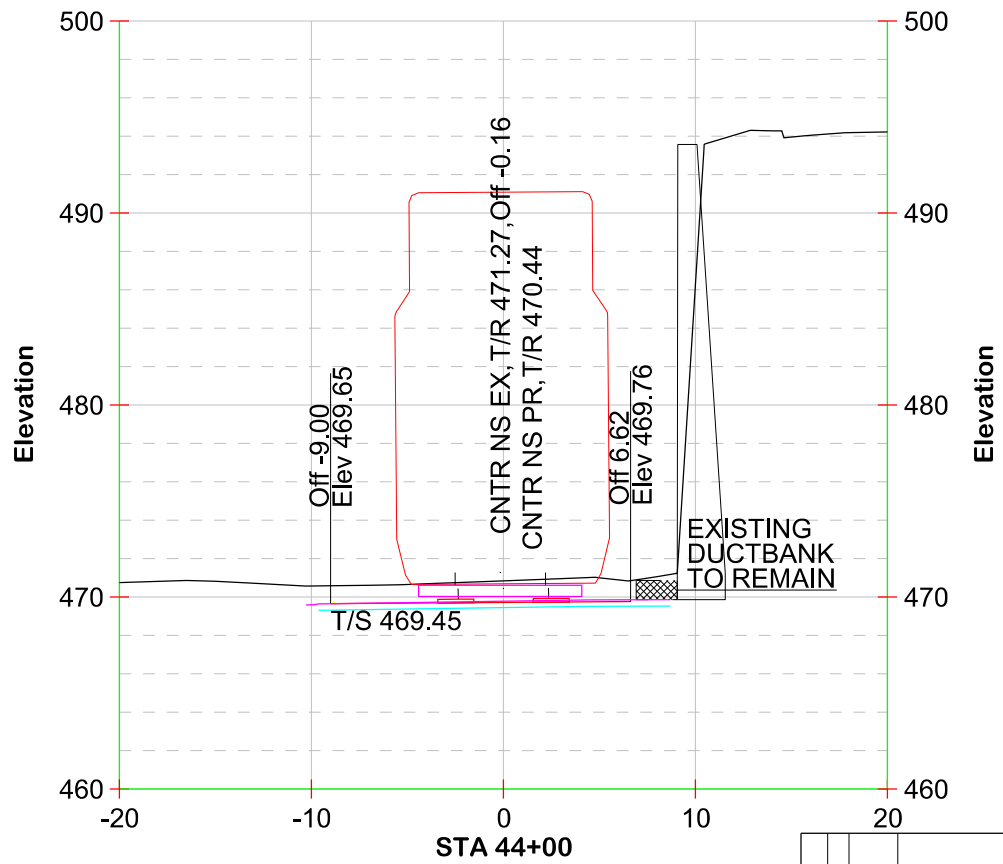
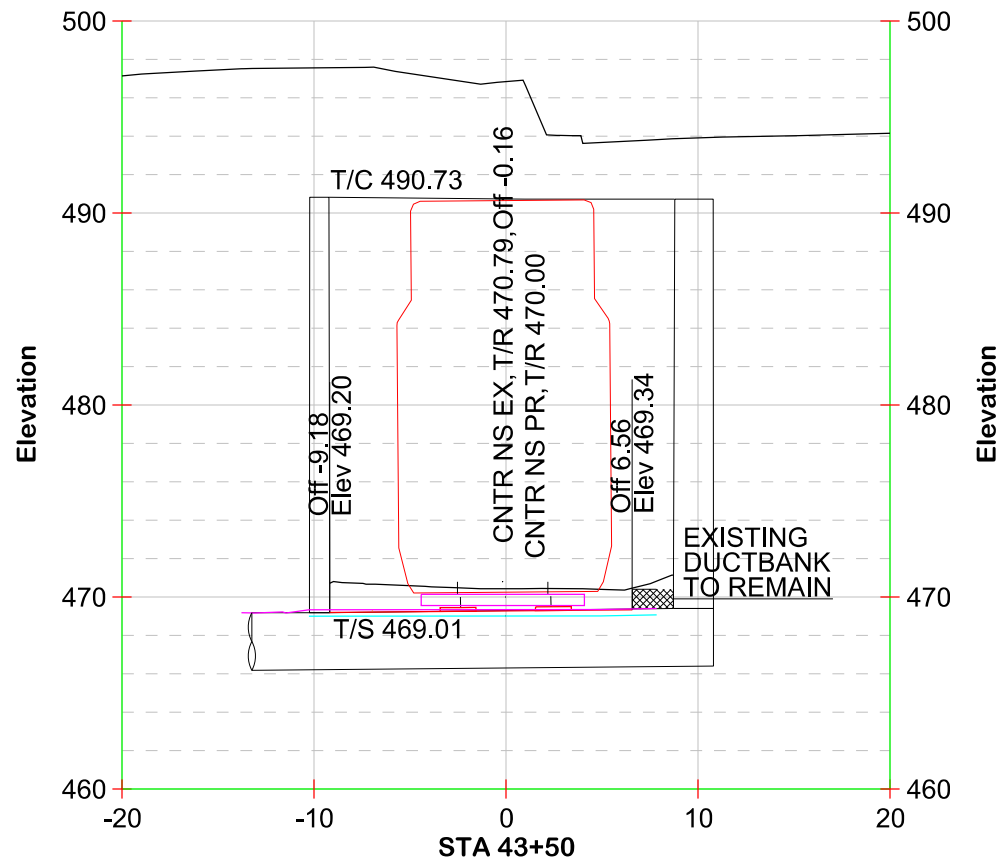
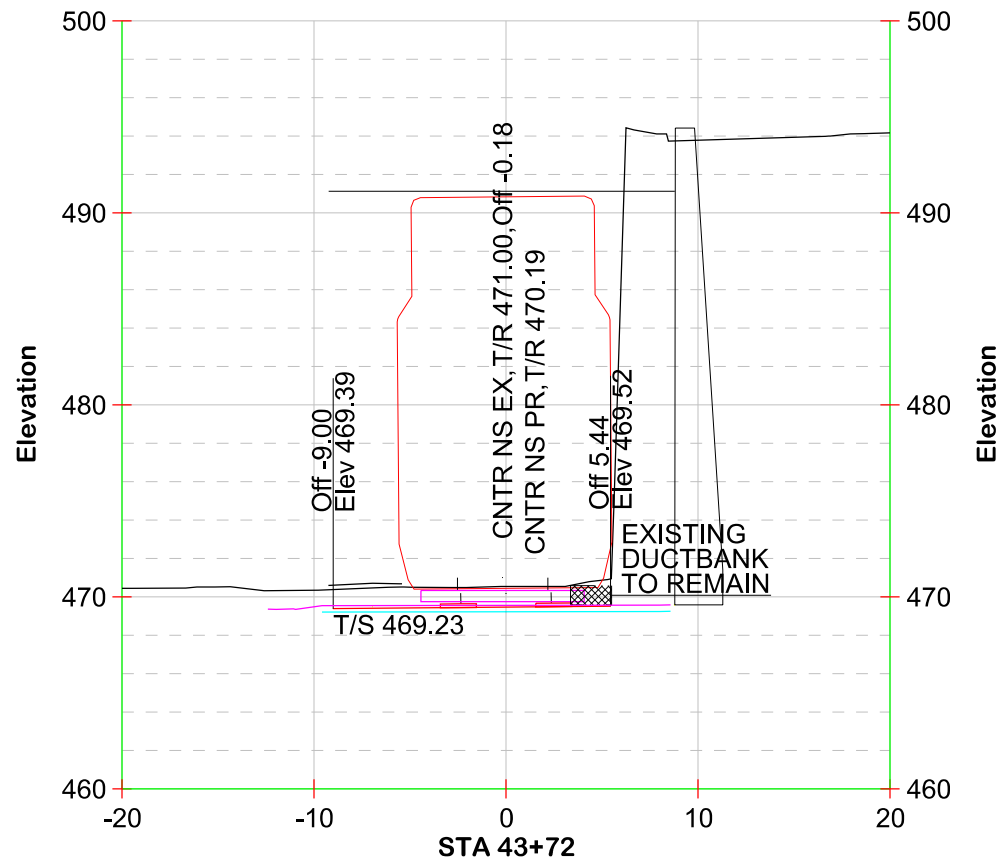
EXISTING TOP OF CONCRETE	EXISTING SURFACE
EXISTING TOP OF STEEL BEAMS	EXISTING TRACK
EXISTING TRACK SECTION TO BE REMOVED	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MILE POST MP 0.6-2.0
DWN	BC	FILE No. TRK1114427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
SHEET 36 OF 45			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND

EXISTING TOP OF CONCRETE

EXISTING TOP OF STEEL BEAMS

EXISTING TRACK SECTION TO BE REMOVED

EXISTING SURFACE

EXISTING TRACK

PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB

SCALE: 1" = 10'

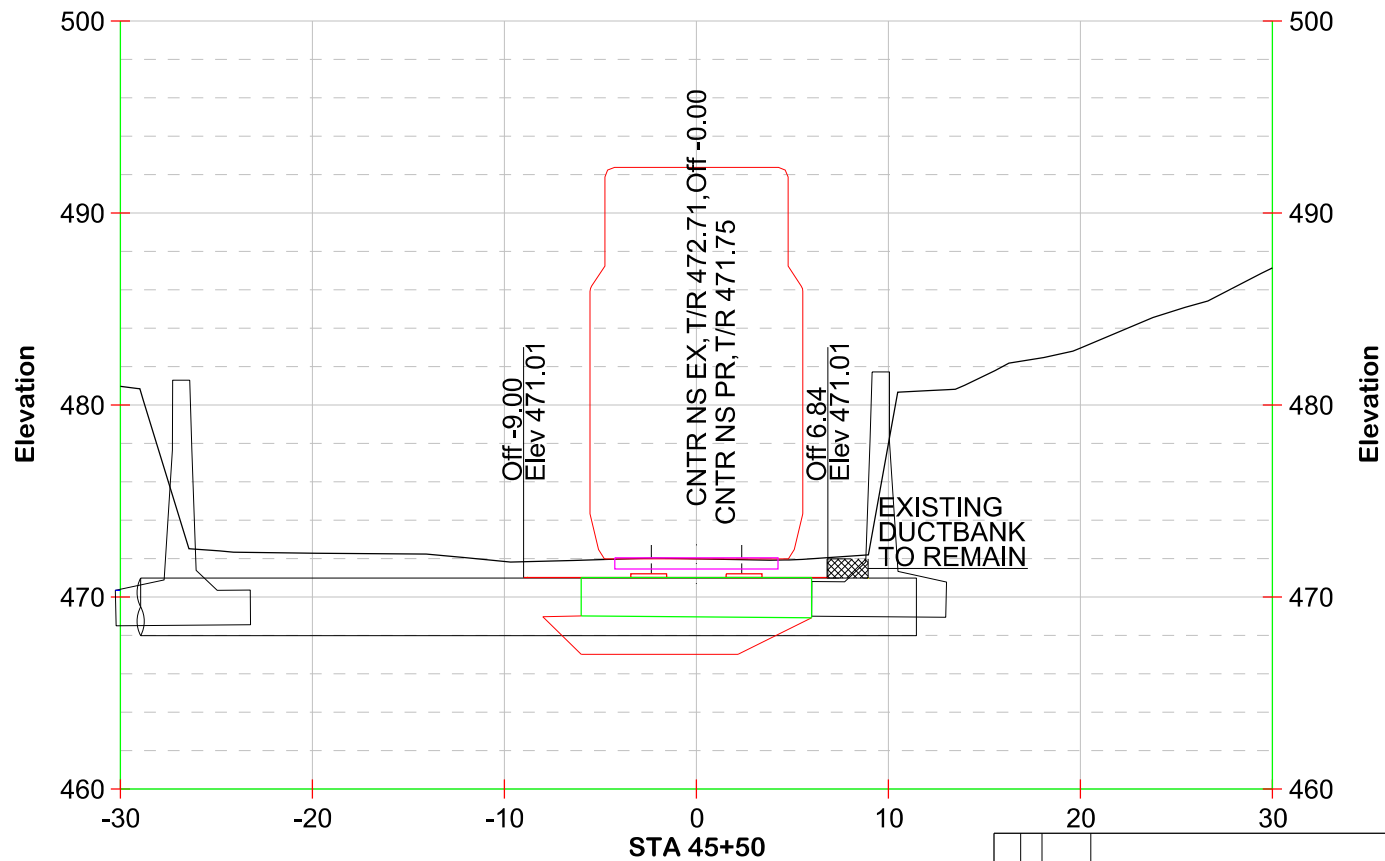
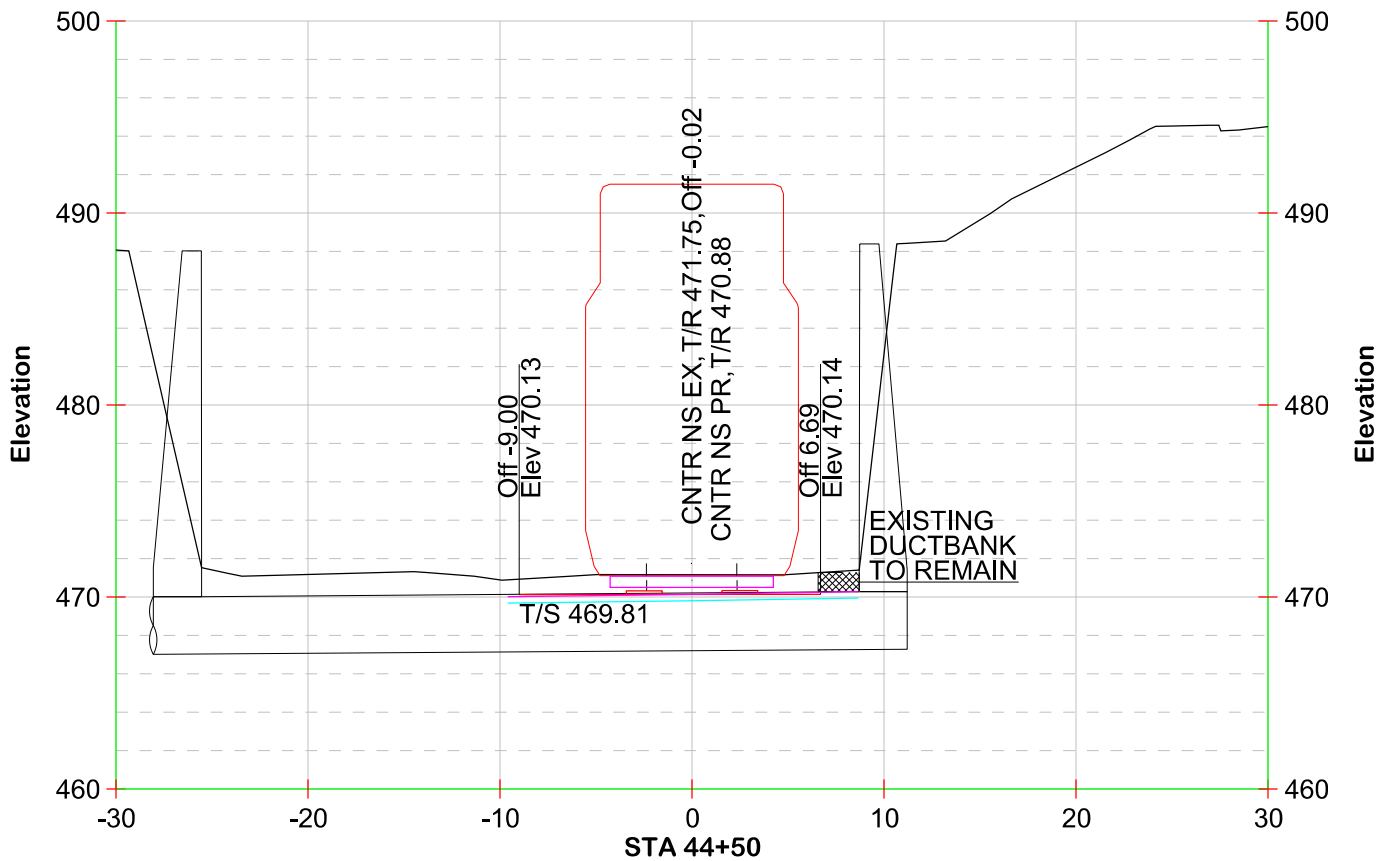
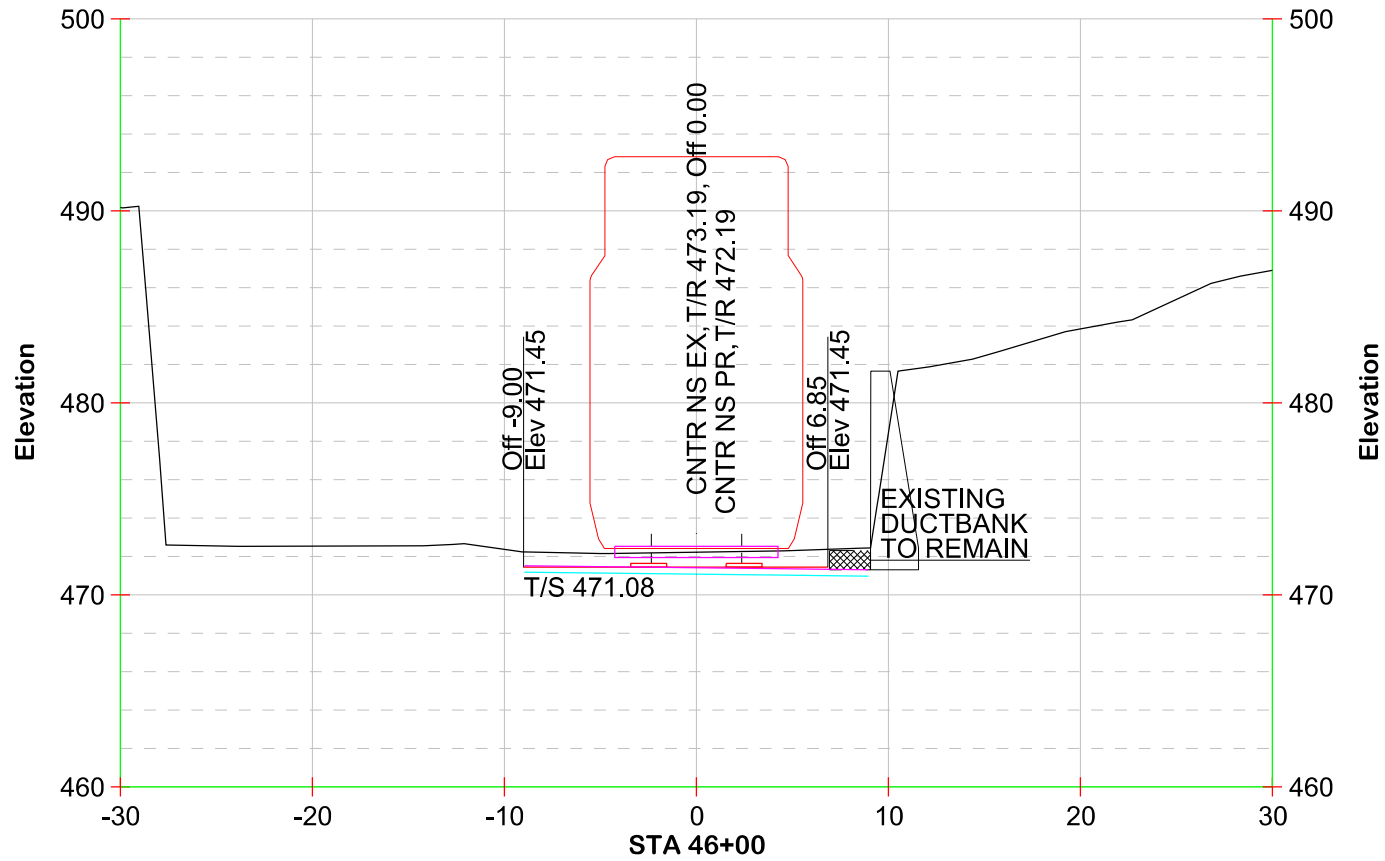
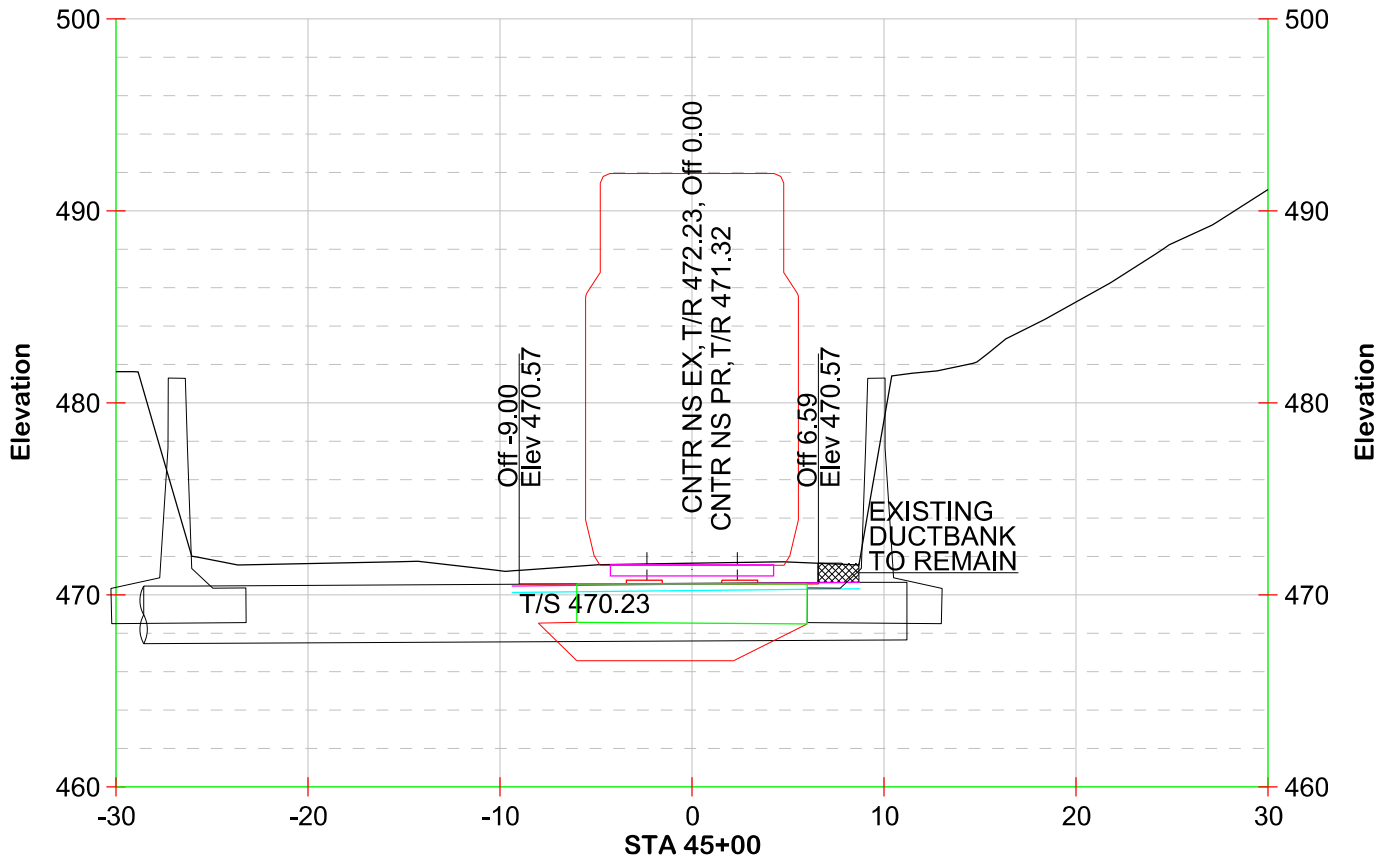


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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MPN
DWN	BC	FILE No. TRKIII4427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
			TB-2022-11
CADD FILE: *FILE* LAST SAVED: *LASTSAVEDDATE*			



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

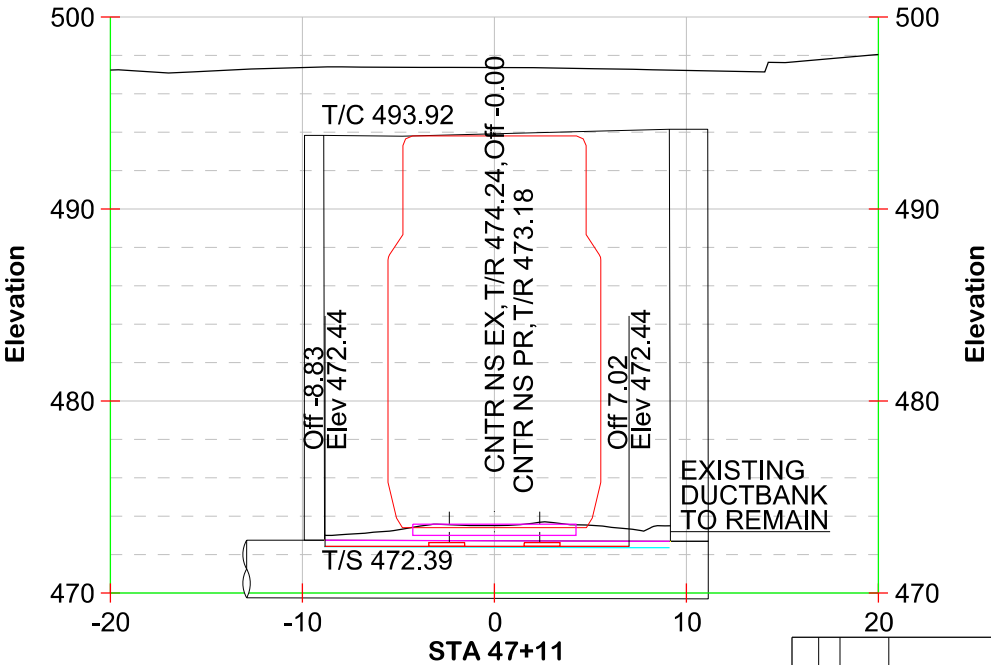
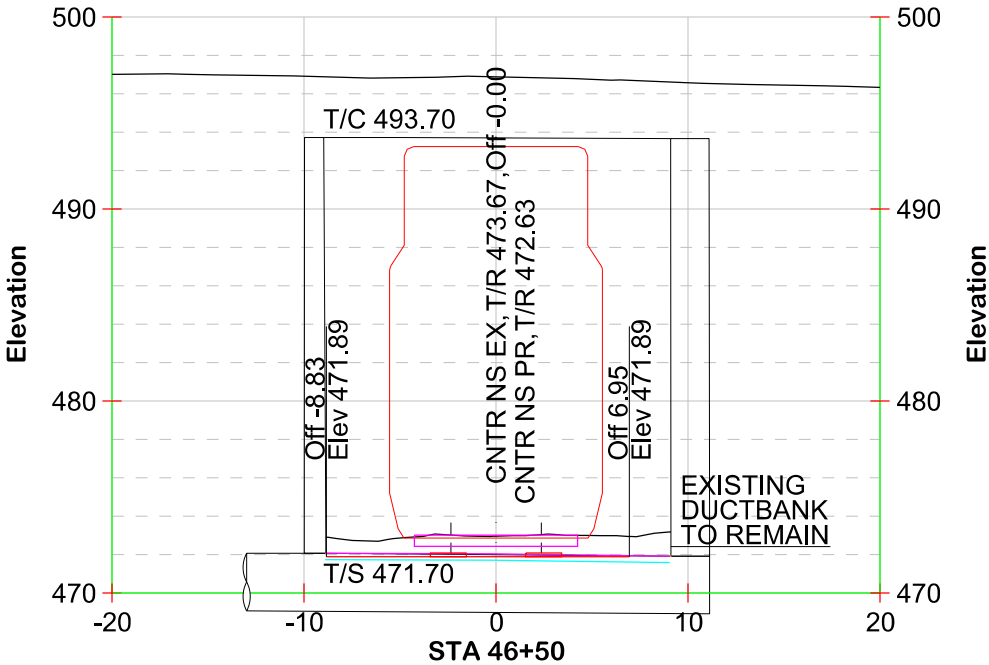
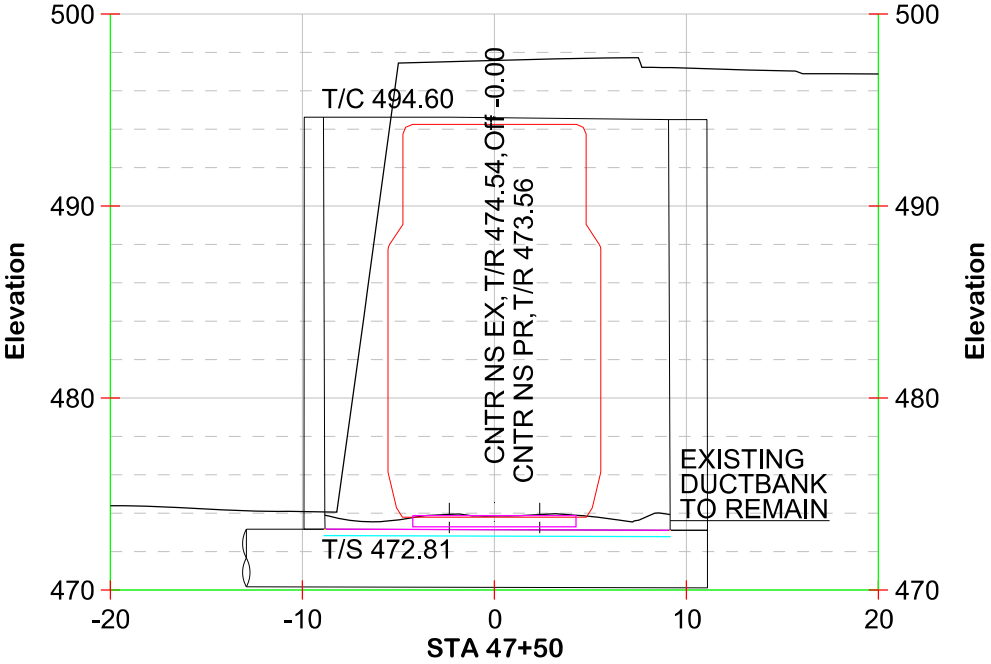
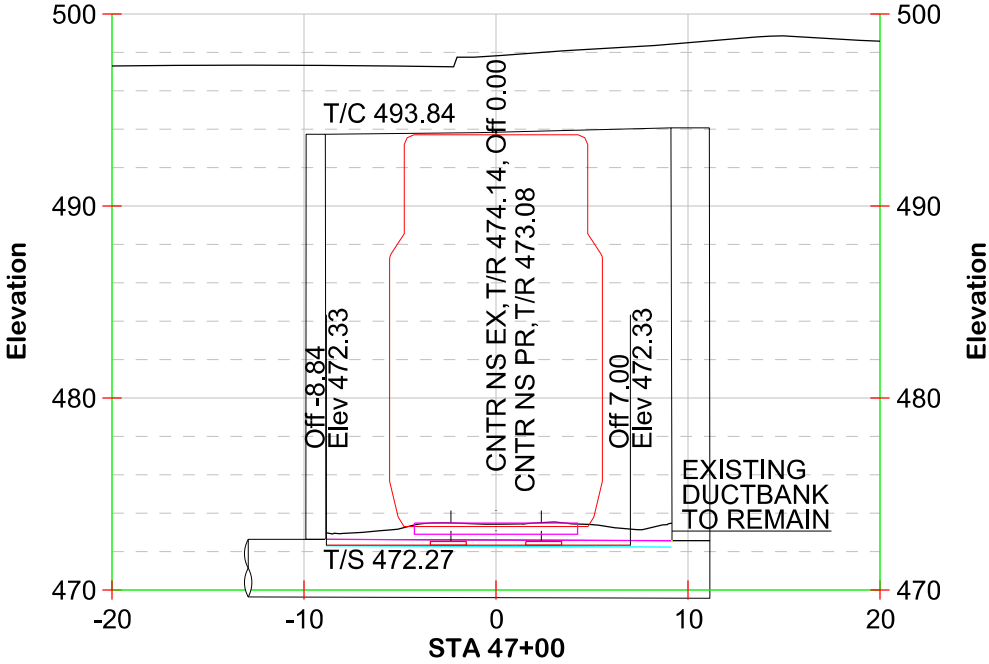
LEGEND	
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	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MHW
DWN	BC	FILE No. TRK1114427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
CADD FILE: _SEFILEL			TB-2022-11
LAST SAVED: _LASTSAVEDATE			SHEET 38 OF 45



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND

EXISTING TOP OF CONCRETE

EXISTING TOP OF STEEL BEAMS

EXISTING TRACK SECTION TO BE REMOVED

EXISTING SURFACE

EXISTING TRACK

PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB

SCALE: 1" = 10'



NORFOLK SOUTHERN

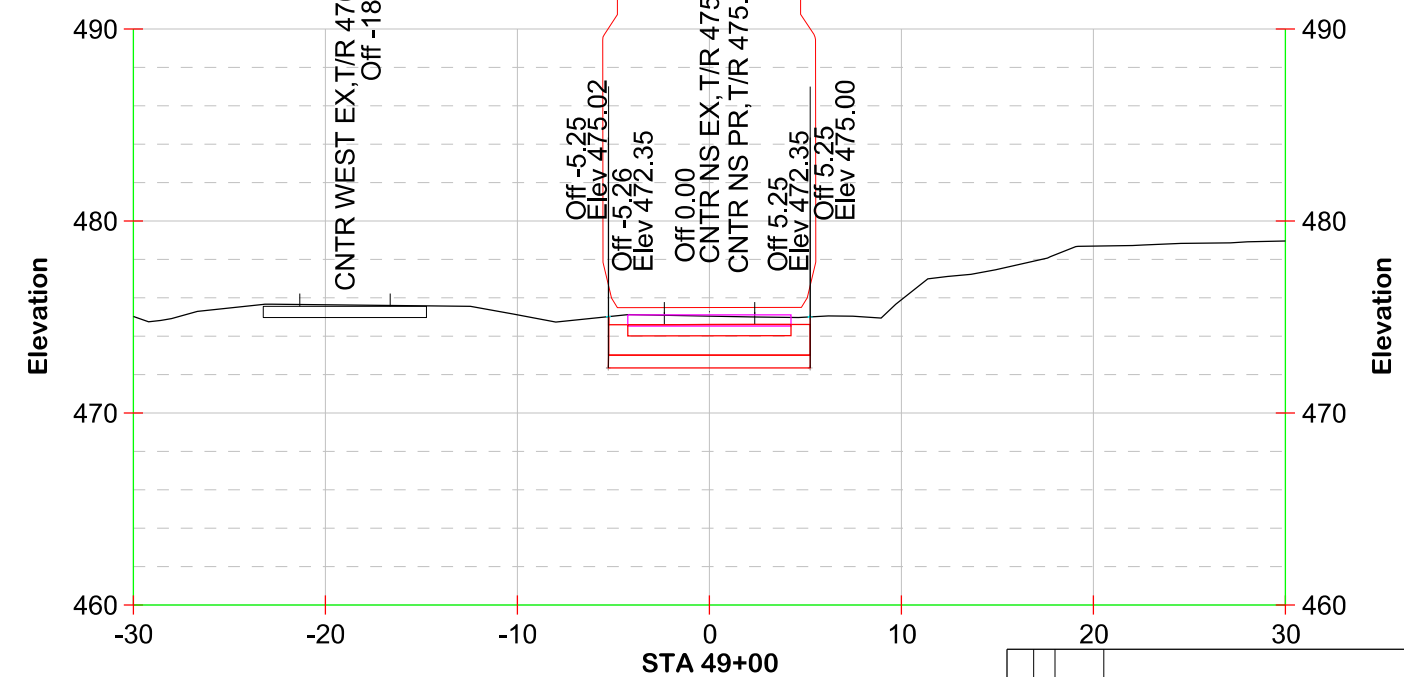
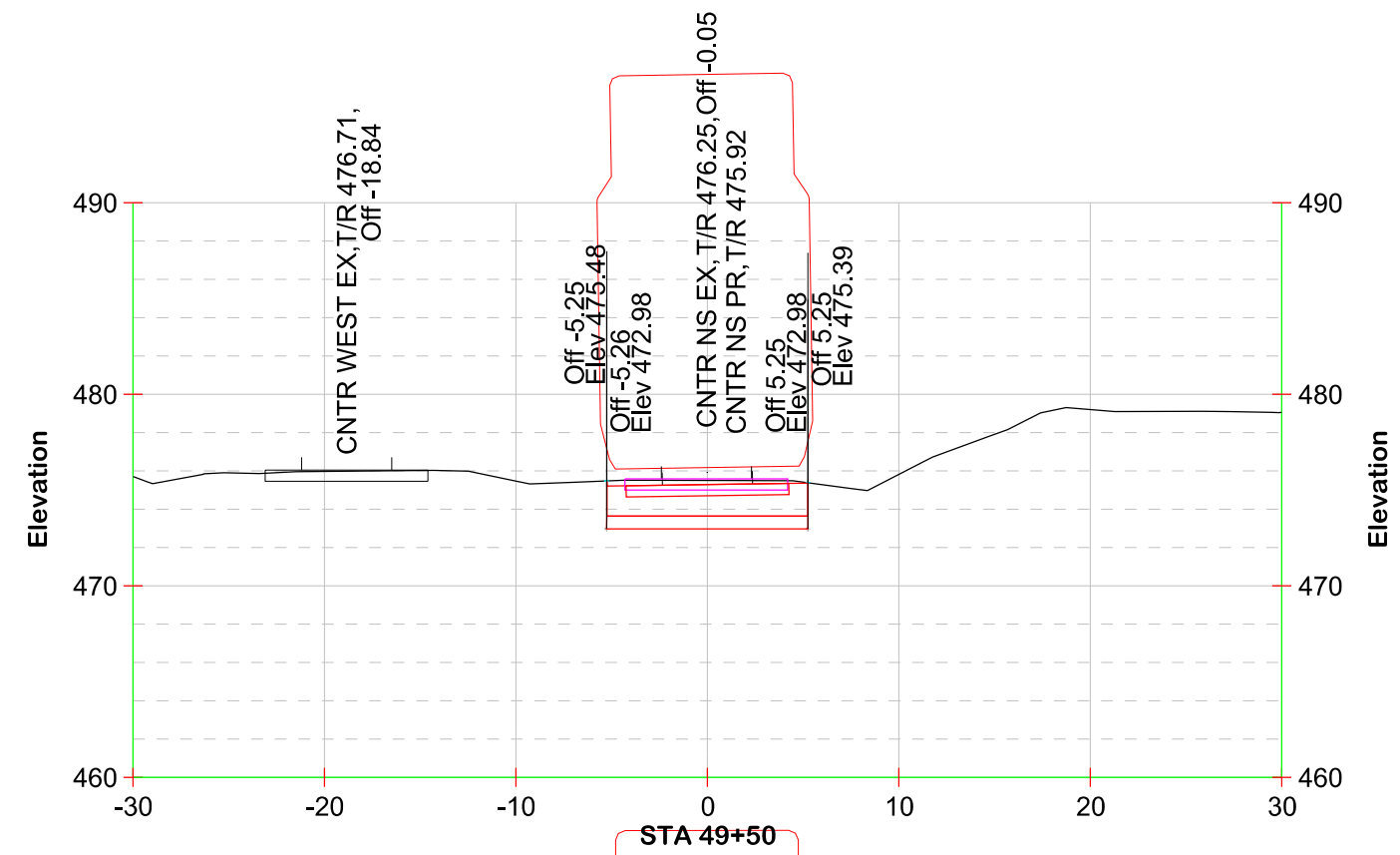
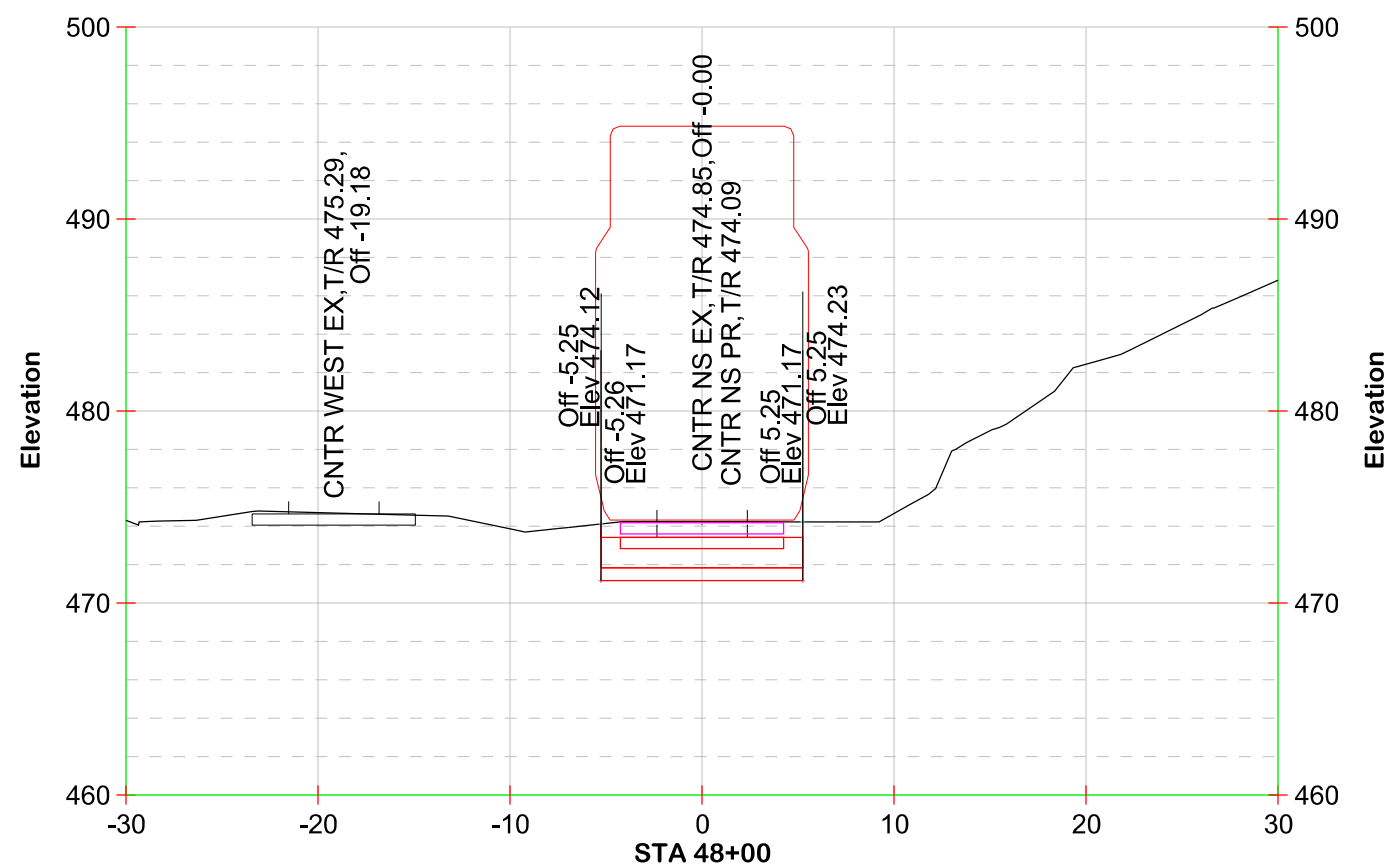
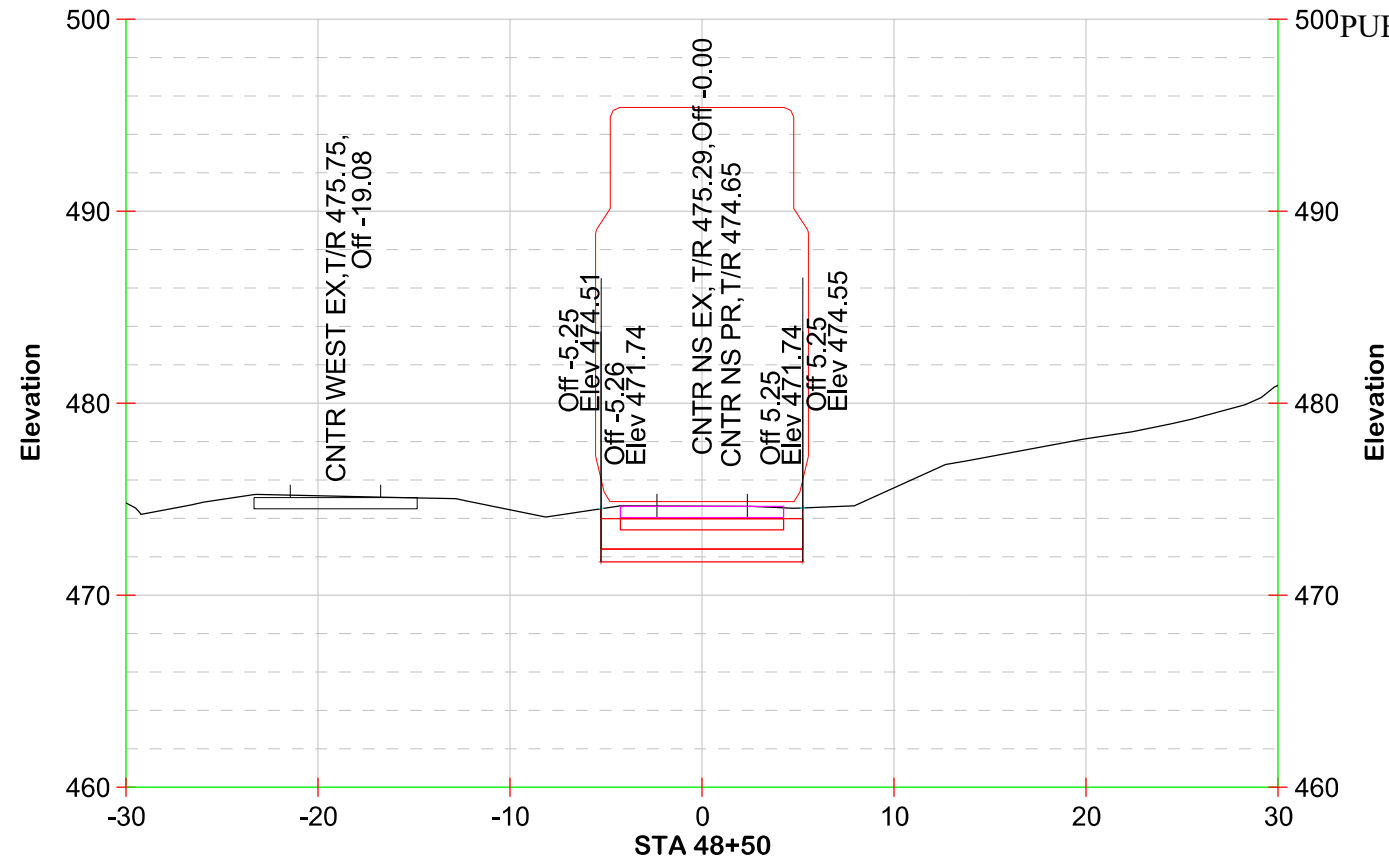
NORFOLK SOUTHERN RAILWAY COMPANY

OWNING COMPANY

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV.	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	FILE No. D3120	MPN
DWN	BC	FILE No. TRKIII4427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
			TB-2022-11
CADD FILE: #FILE#			SHEET 39 OF 45
LAST SAVED: #LASTSAVED#			

PUBLIC VERSION



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND

EXISTING TOP OF CONCRETE

EXISTING TOP OF STEEL BEAMS

EXISTING TRACK SECTION TO BE REMOVED

EXISTING SURFACE

EXISTING TRACK

PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB

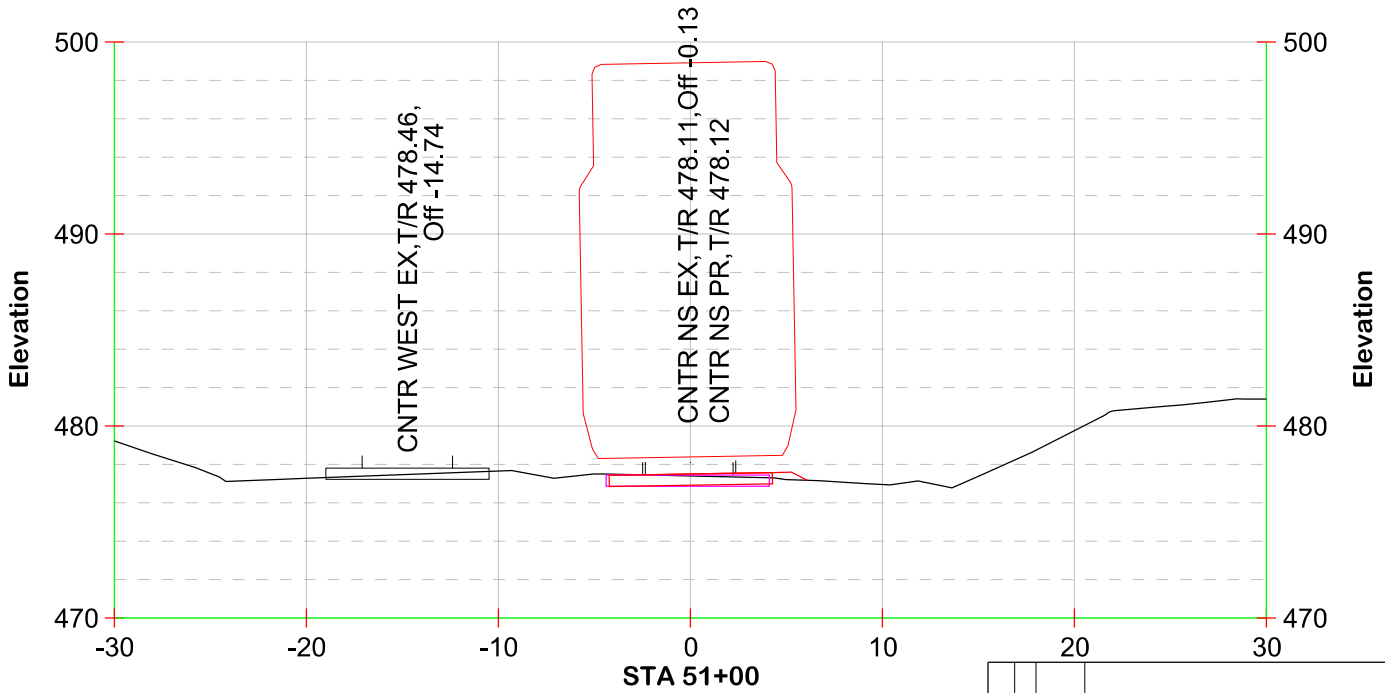
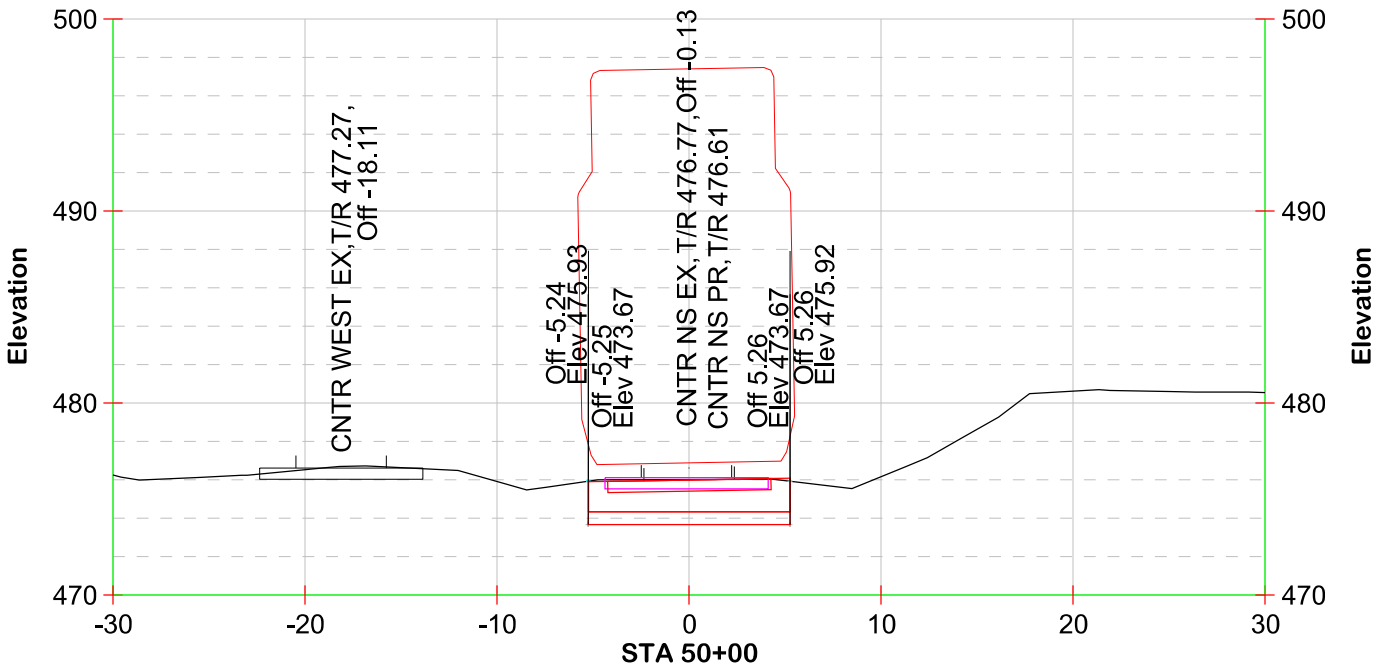
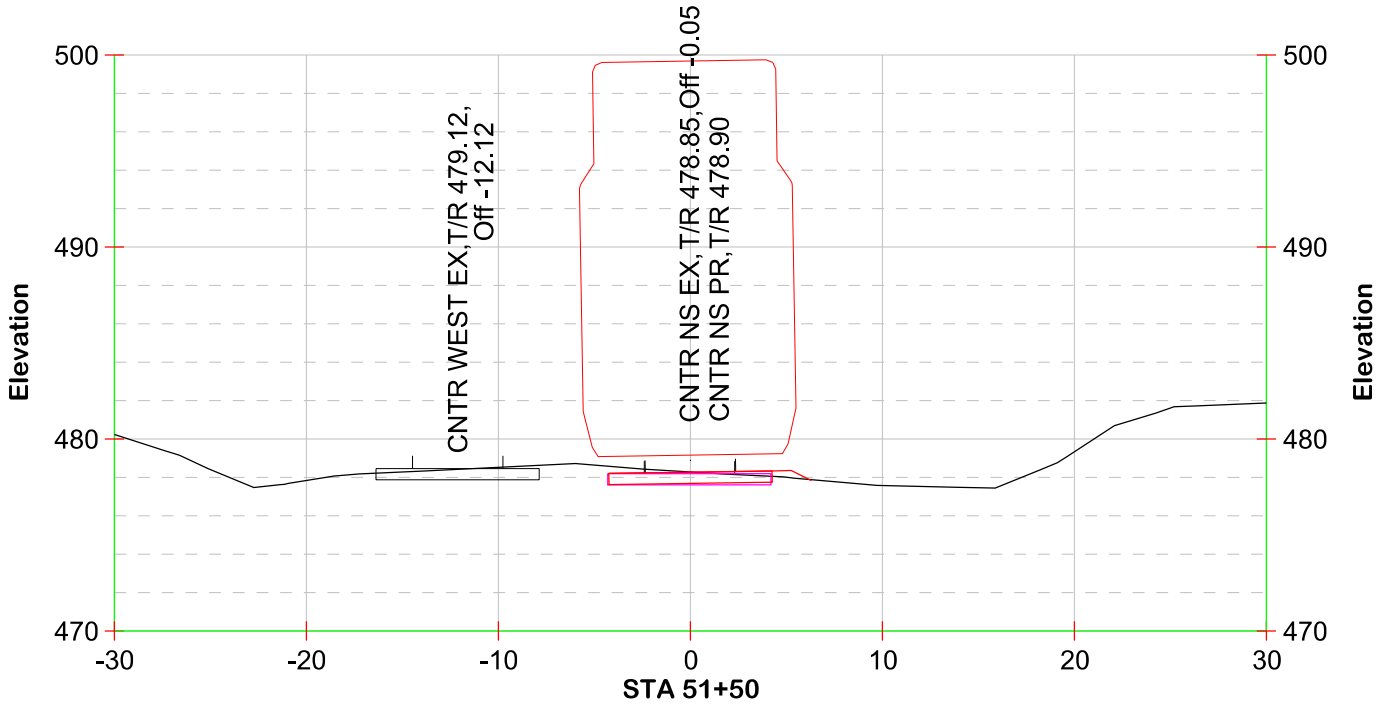
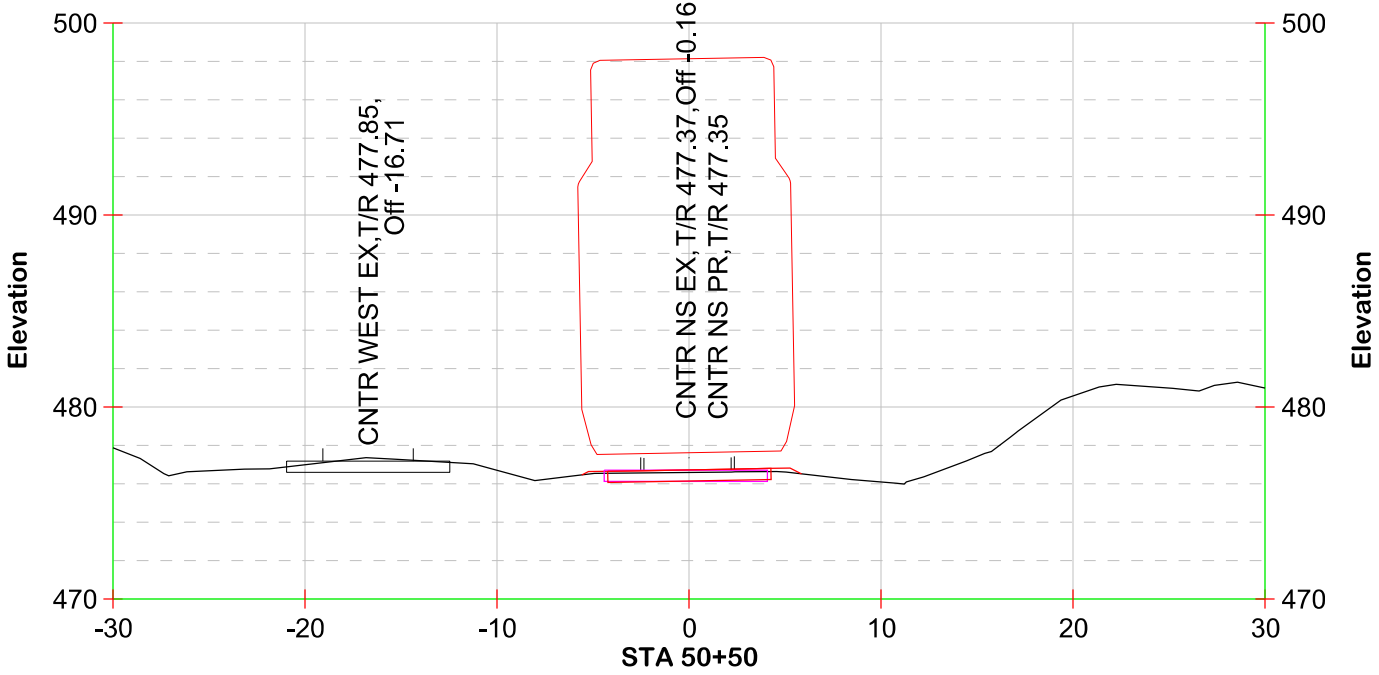
SCALE: 1" = 10'

NORFOLK SOUTHERN
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OWNING COMPANY

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

MODEL NAME: 5/17/2024

REV	BY	DATE	DESCRIPTION
G&W PW, GARDNER BRANCH SUBDIV			
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MHW
DWN	BC	FILE No. TRK1114427	
CHK	NB	DATE 02-09-2024	DRAWING NUMBER
CADD FILE: 5/17/2024			TB-2022-11
LAST SAVED: 5/17/2024			SHEET 40 OF 45



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT
TRACK CENTERLINE.

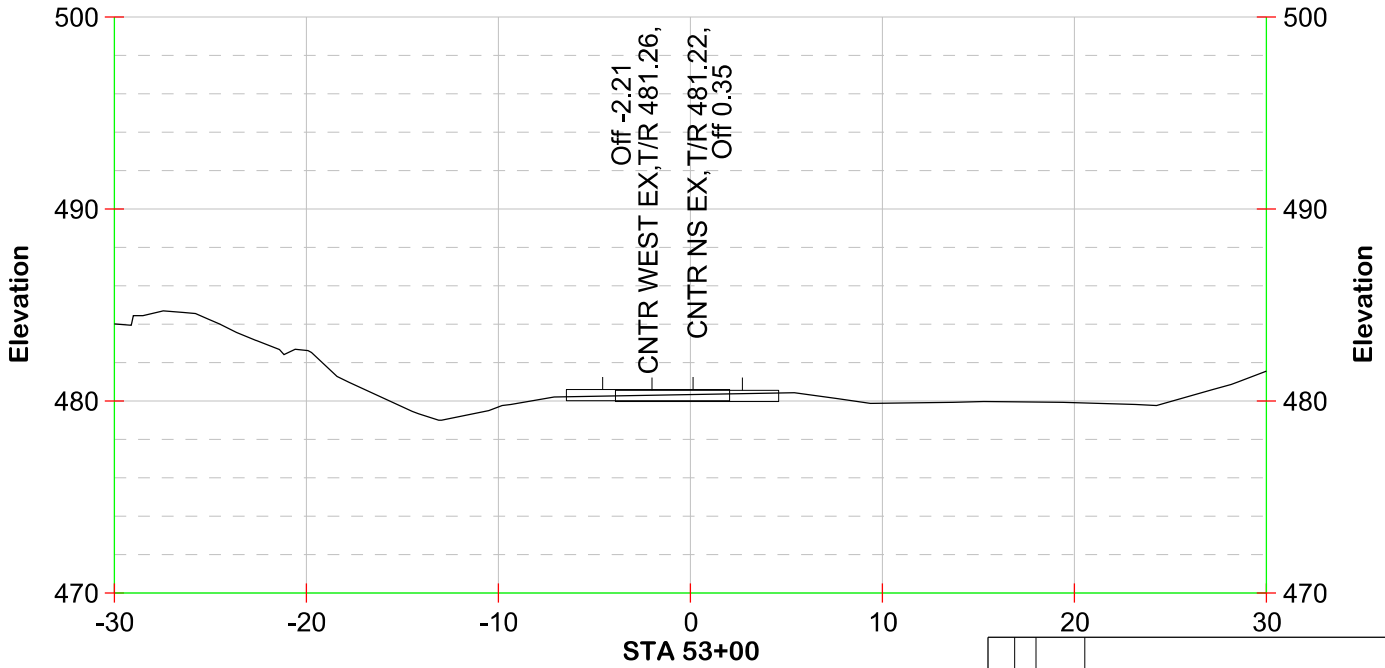
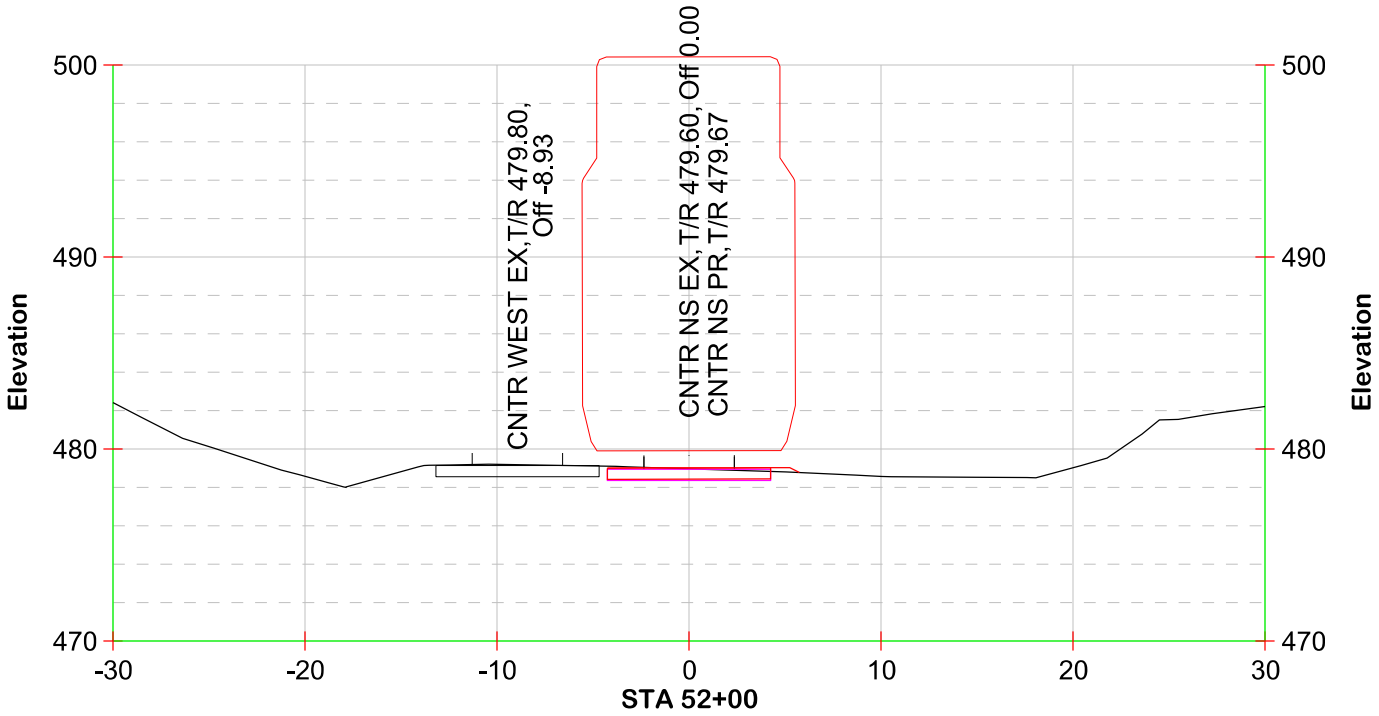
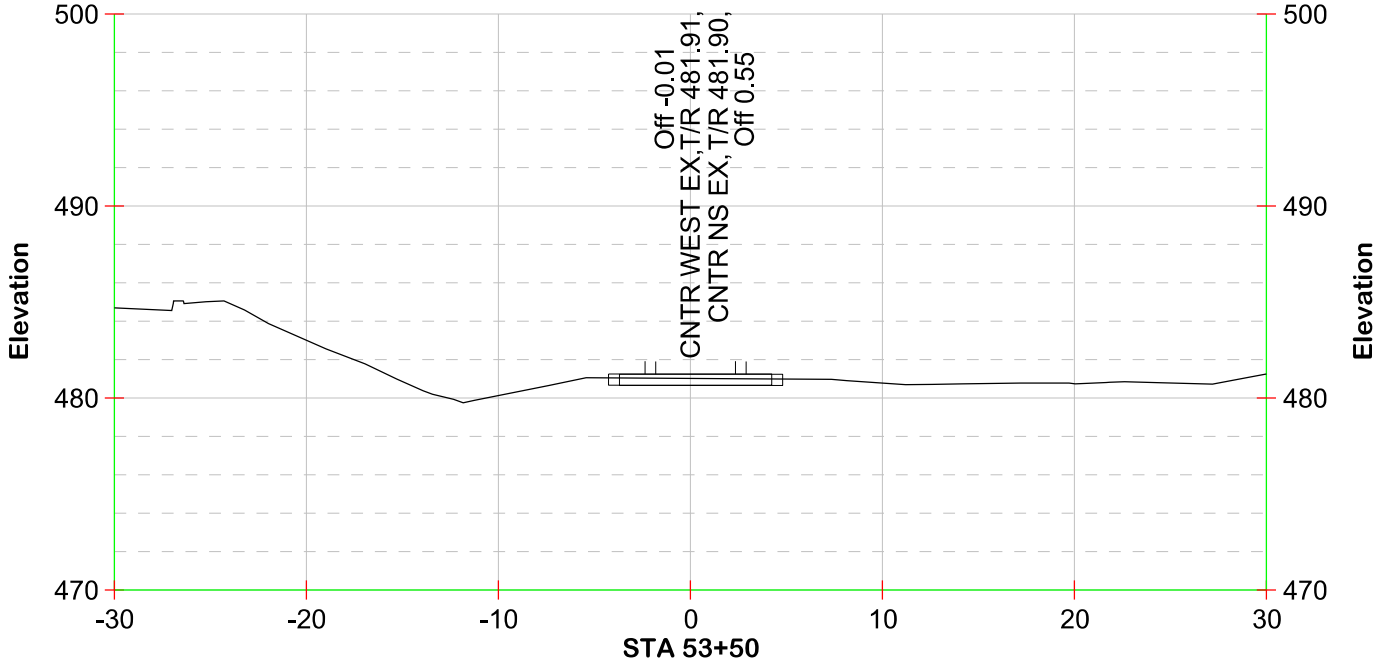
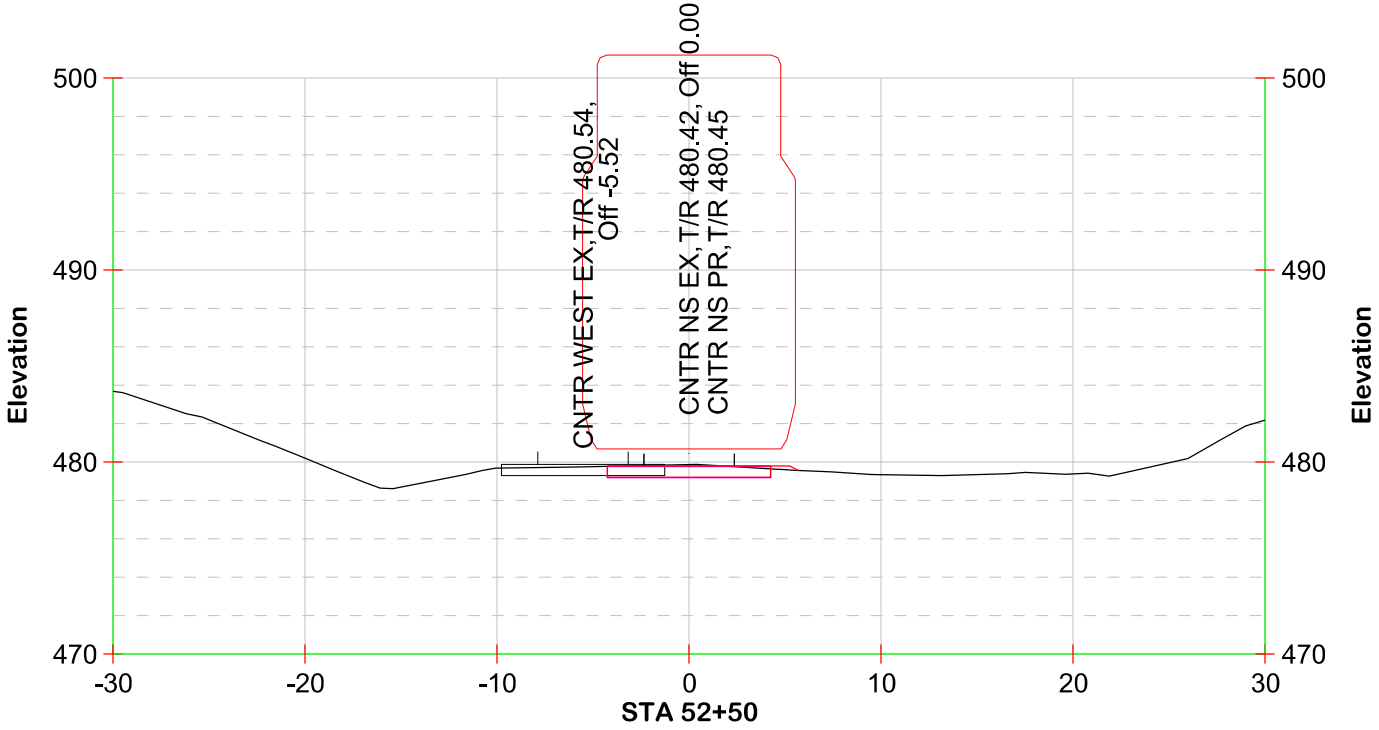
LEGEND	
	EXISTING TOP OF CONCRETE
	EXISTING TOP OF STEEL BEAMS
	EXISTING TRACK SECTION TO BE REMOVED
	EXISTING SURFACE
	EXISTING TRACK
	PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



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OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV.	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MPN
DWN	BC	FILE No. TRK1114427	MILE POST MP 0.6-2.0
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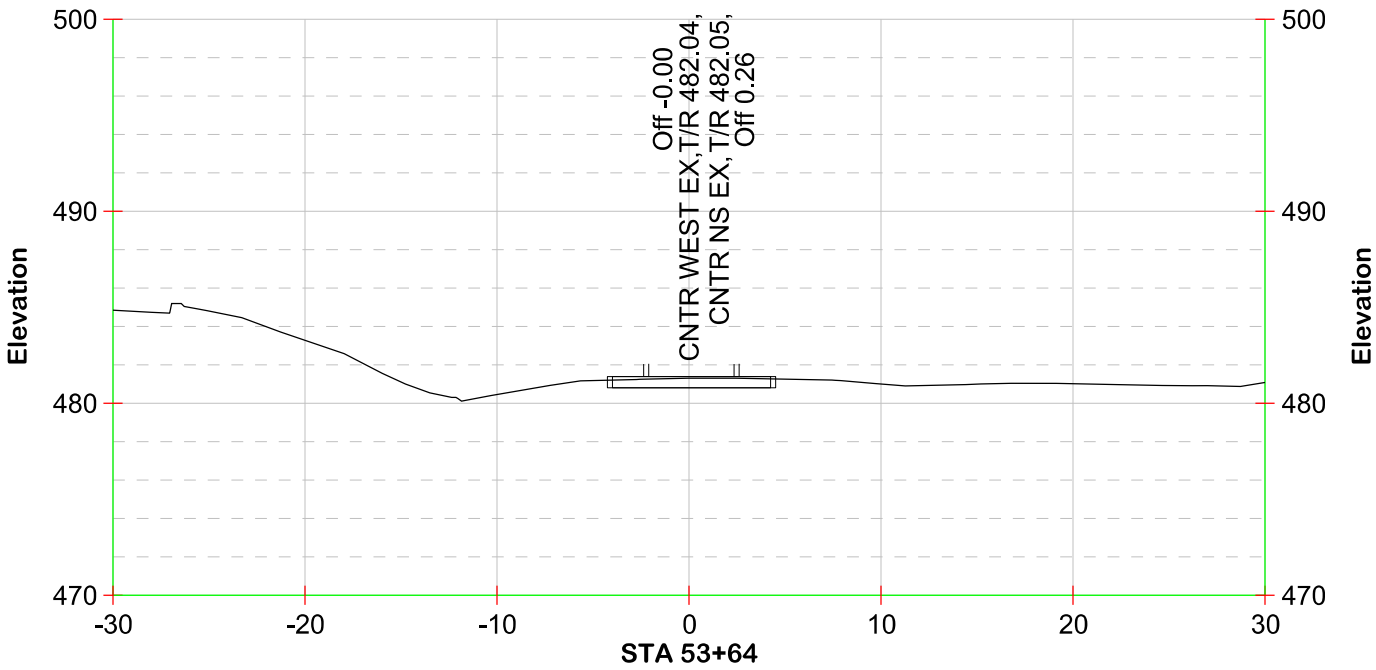
NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT TRACK CENTERLINE.

LEGEND			
	EXISTING TOP OF CONCRETE		EXISTING SURFACE
	EXISTING TOP OF STEEL BEAMS		EXISTING TRACK
	EXISTING TRACK SECTION TO BE REMOVED		PROPOSED TRACKWORK/ PROPOSED TOP OF SLAB

SCALE: 1" = 10'



REV	BY	DATE	DESCRIPTION
1	BC	02-09-2024	G&W PW, GARDNER BRANCH SUBDIV
TITLE			
TRACK CROSS SECTIONS			
DGN	DD	PTD No.	D3120
DWN	BC	FILE No.	TRKIII4427
CHK	NB	DATE	02-09-2024
DRAWING NUMBER			TB-2022-11
LAST SAVED			LASTSAVEDDATE



NOTES
1. TOP OF TUNNEL CEILING (T/C) SHOWN AT
TRACK CENTERLINE.

LEGEND

EXISTING TOP OF CONCRETE

EXISTING TOP OF STEEL BEAMS

EXISTING TRACK SECTION TO BE REMOVED

EXISTING SURFACE

EXISTING TRACK

PROPOSED TRACKWORK/
PROPOSED TOP OF SLAB

SCALE: 1" = 10'
DO NOT SCALE THIS DRAWING FOR DIMENSIONS NOT GIVEN

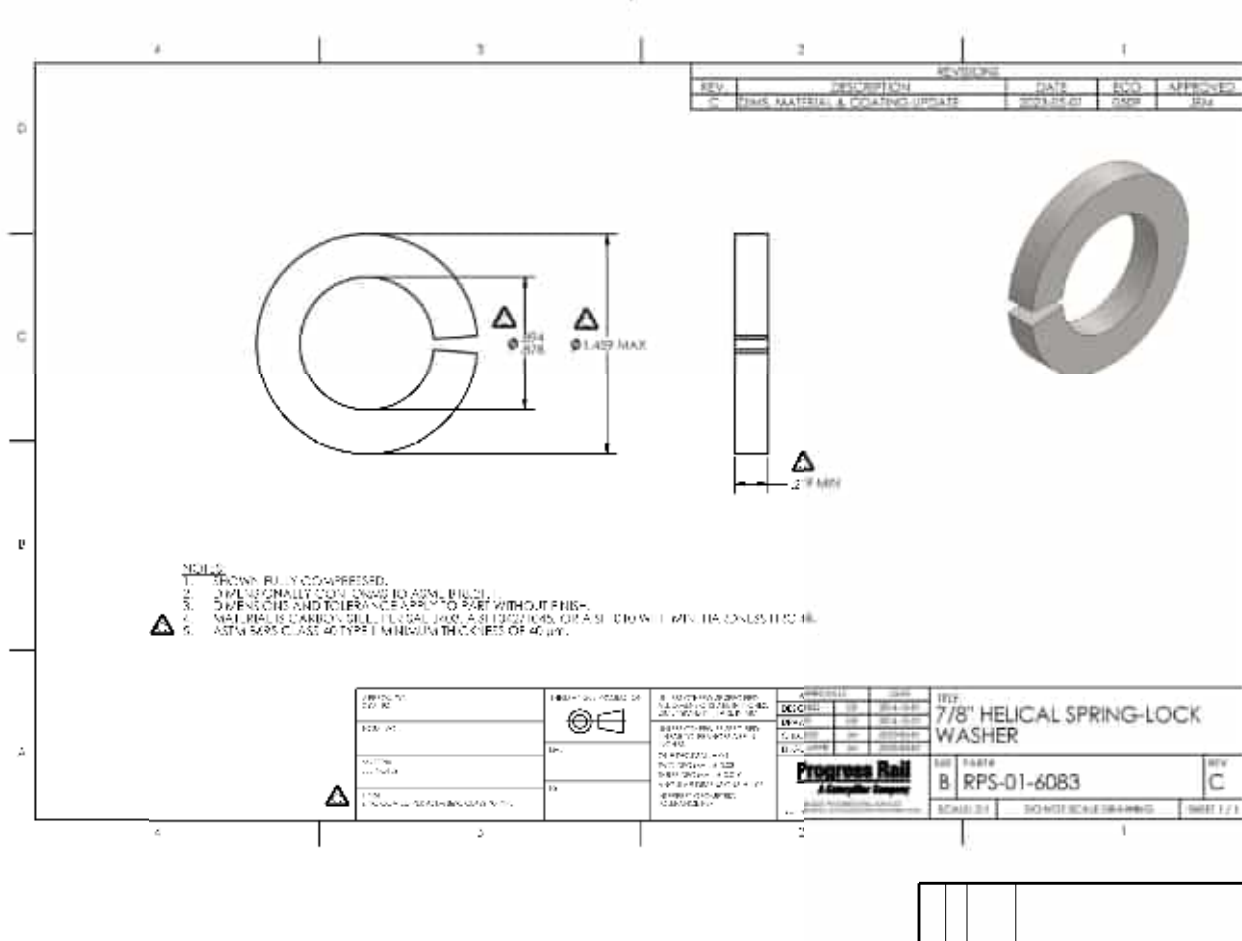
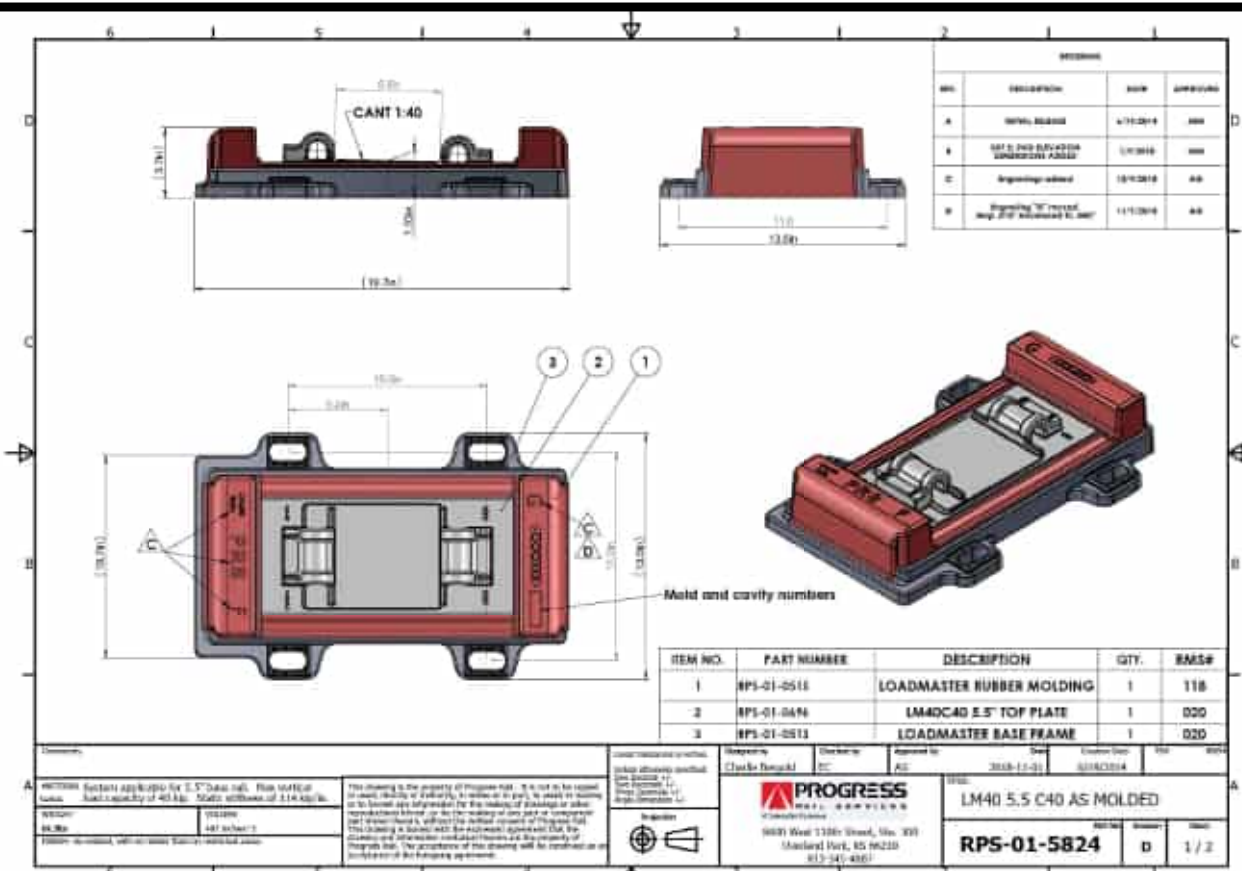
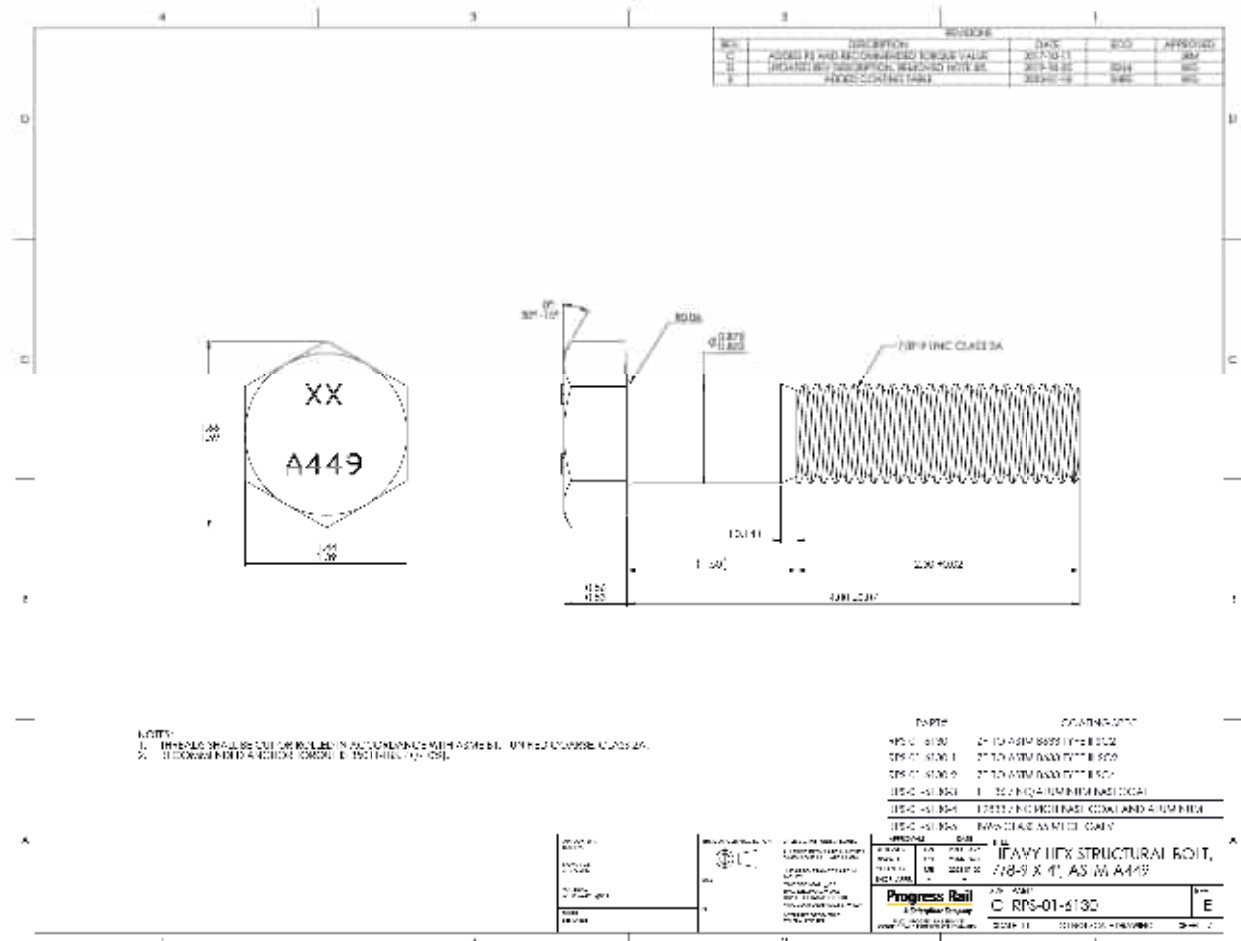
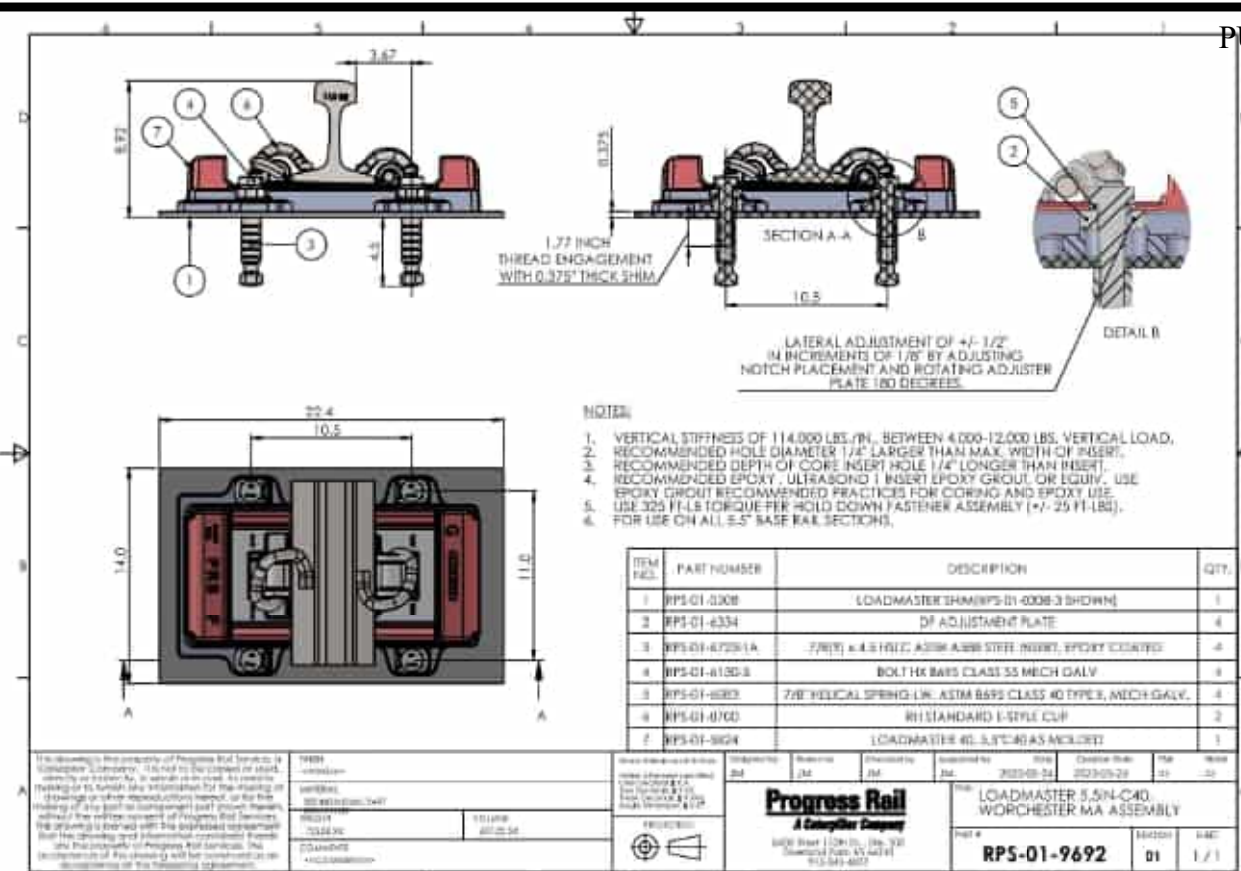


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OWNING COMPANY

OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
1			G&W PW, GARDNER BRANCH SUBDIV
TITLE TRACK CROSS SECTIONS			
DGN	DD	PTD No. D3120	MPN
DWN	BC	FILE No. TRKIII4427	DRAWING NUMBER
CHK	NB	DATE 02-09-2024	TB-2022-11
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MODEL NAME: *MODELNAME*
DATE PRINTED: 5/17/2024



LEGEND



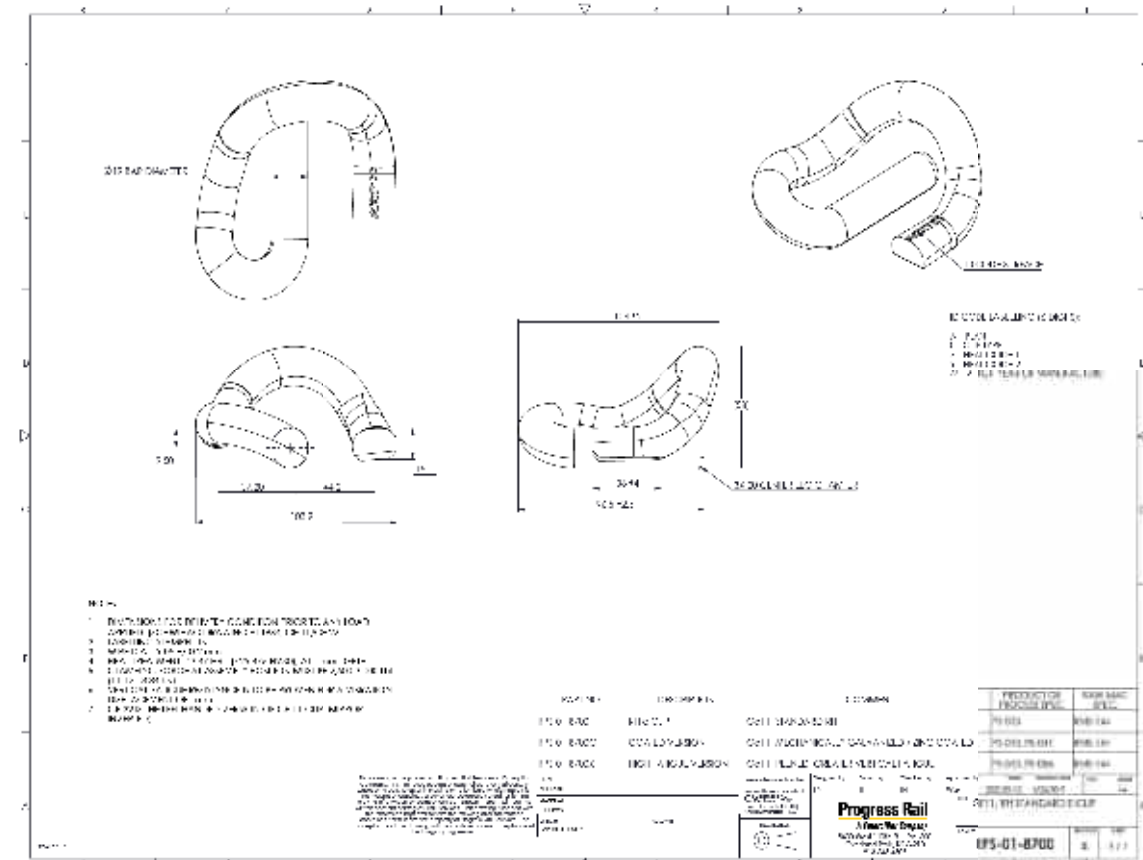
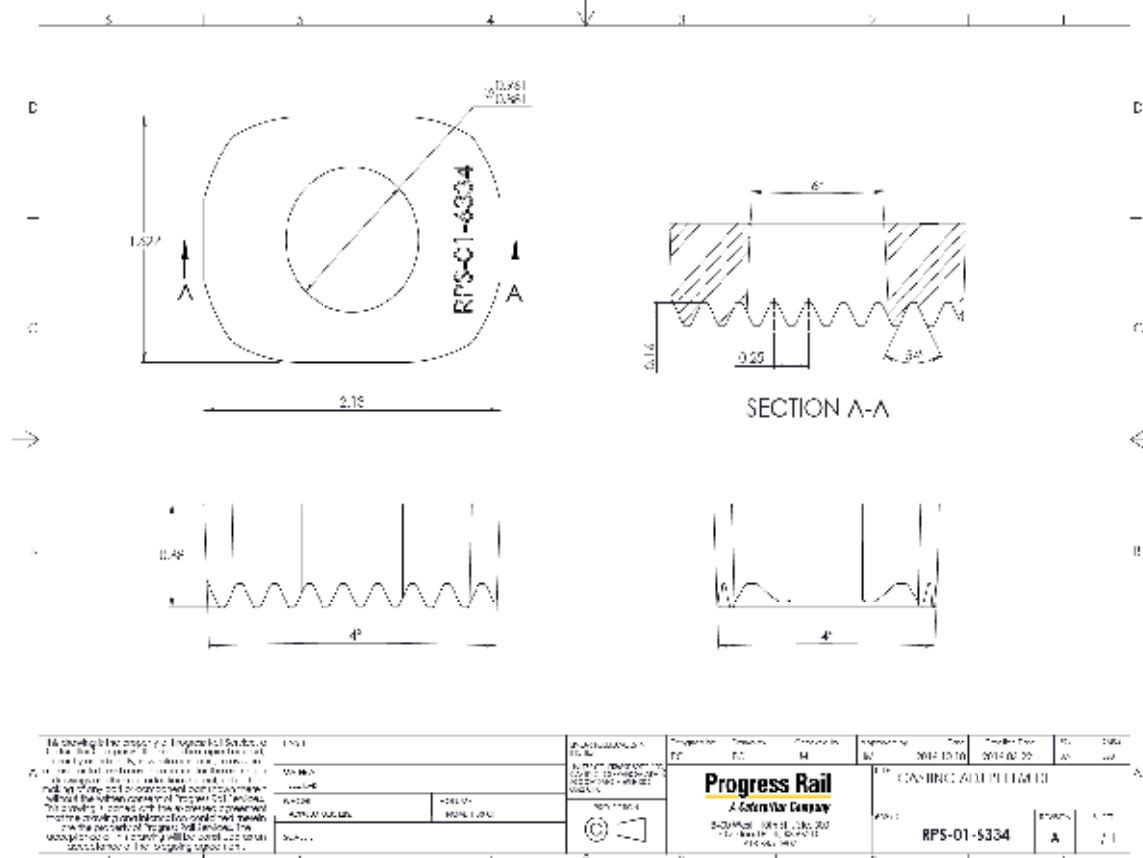
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NORFOLK SOUTHERN RAILWAY COMPANY

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

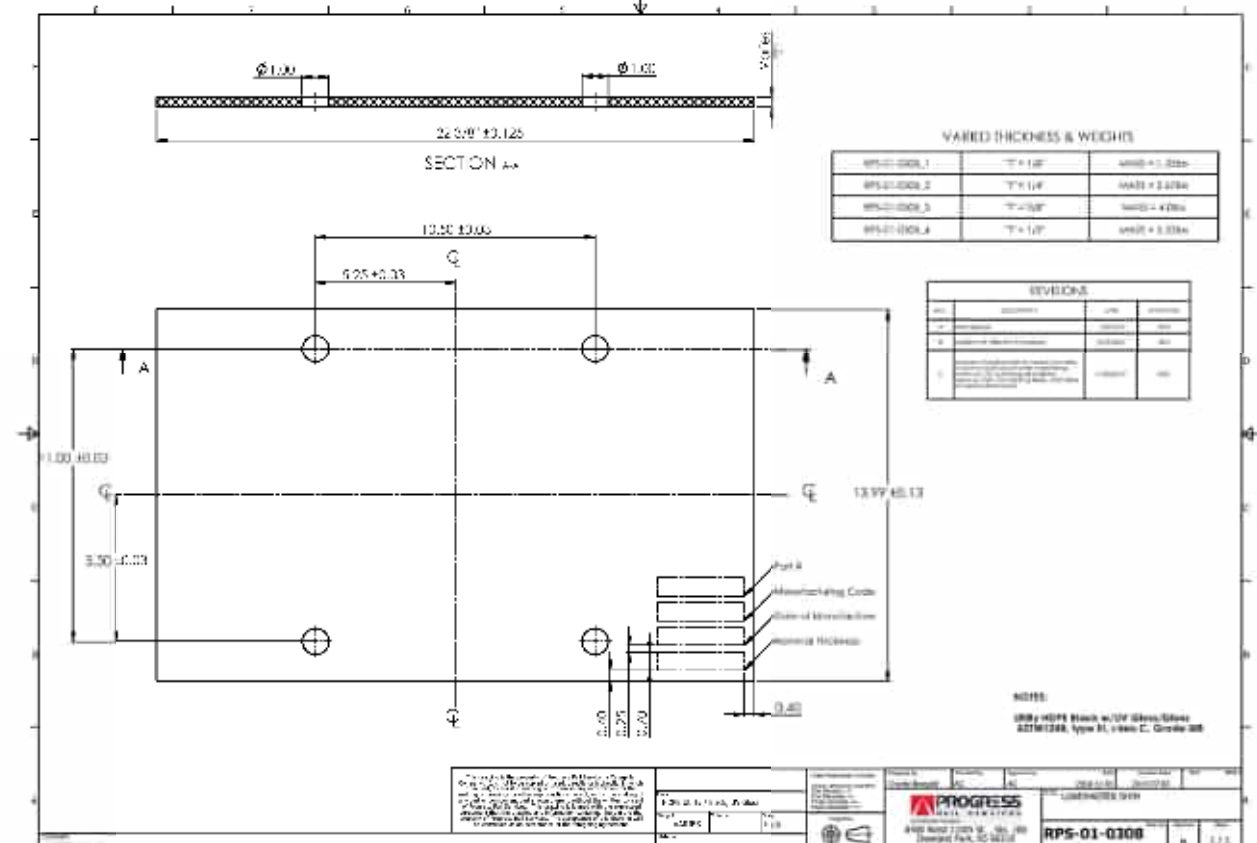
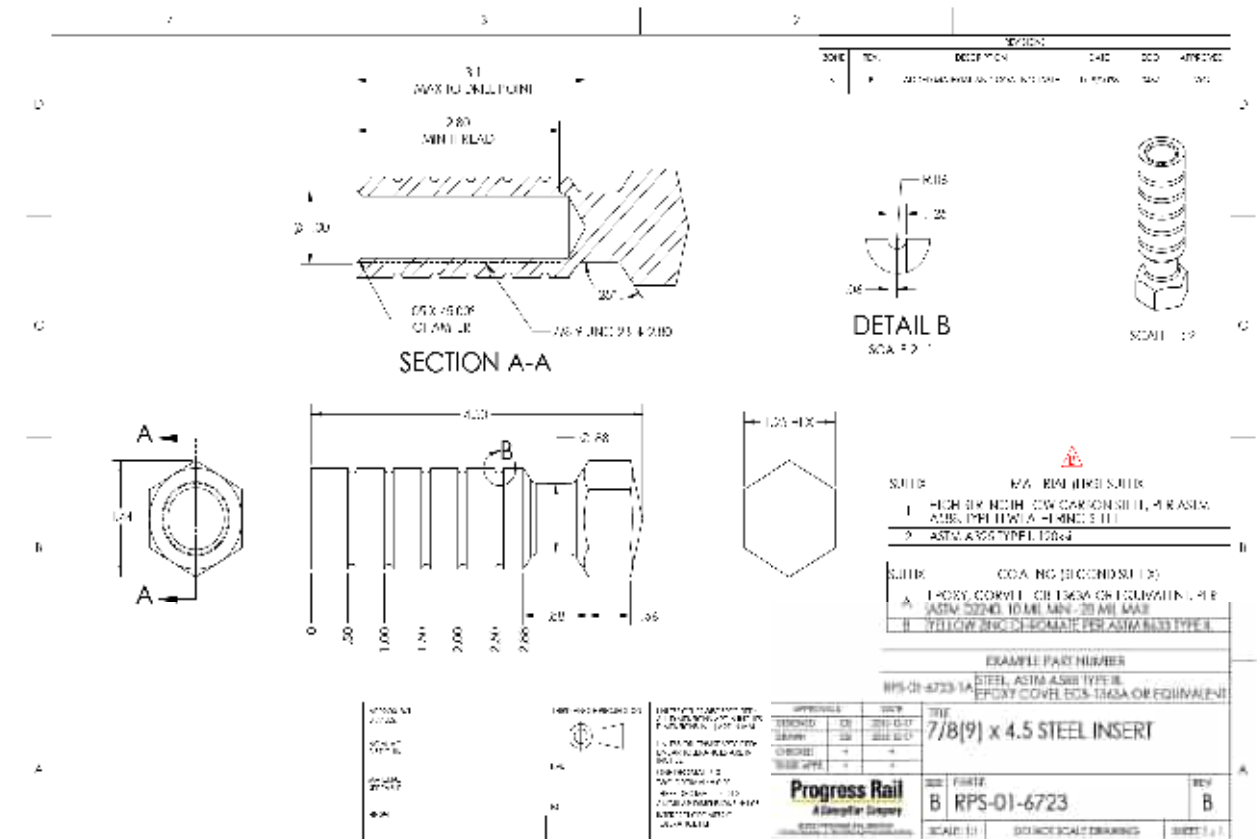
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REV.	BY	DATE	DESCRIPTION
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2	BC	02-09-2024	FASTENER AND INSERT DETAILS 1 OF 2

FILE NO. D3120
FILE NO. TRK1114427
DRAWING NUMBER TB-2022-11
SHEET 44 OF 45



LEGEND



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OPERATING DIVISION
OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA

REV	BY	DATE	DESCRIPTION
1			G&W PW, GARDNER BRANCH SUBDIV
2			FASTENER AND INSERT DETAILS 2 OF 2

DRAWN BY: DD
 CHECKED BY: BC
 DATE: 02-09-2024
 FILE NO: D3120
 DRAWING NUMBER: TB-2022-11
 SHEET: 45 OF 45